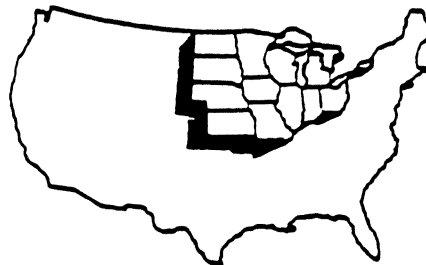


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Home Economics Research Impacts: Framework for Evaluation



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**Home Economics Research Impacts:
Framework for Evaluation**

NCR-133: North Central Regional Committee on
Home Economics Research Evaluation

Coordinated by
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September 1987

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HOME ECONOMICS RESEARCH IMPACTS: A FRAMEWORK FOR EVALUATION

AN ABSTRACT

A basic goal of home economics is to improve the well-being of families and individuals. A question often asked by administrators and policy makers is the extent to which home economics research has contributed towards this goal.

Home economics research affects families and individuals through a two-stage process. The knowledge gained through research is disseminated to various private and public, profit and not-for-profit organizations. These organizations use this knowledge to develop educational programs, services, and products for society.

The research evaluation question becomes one of how to identify and measure those impacts affecting family and individual well-being. Improved family and individual well-being arising from home economics research is obtained through an increase in resources which affects family and individual level of living and, ultimately, well-being. This suggests that one can determine the impact of home economics research by assessing the level, balance, and use of household resources, level of living, and well-being.

There are several measurement techniques that can be used to evaluate the impact of home economics research. These measurement tools include desk audits, research and development studies, experiments, surveys of intermediate knowledge users and disseminators, surveys of families and individuals, and longitudinal studies. Regardless of which assessment technique is used, important methodological issues such as a definition of the purview of home economics research, the appropriate time frame over which to measure inputs, the appropriate sampling unit, and the relevant population of users must be considered.

The issue now becomes one of identifying ways to measure research impacts. The indicators for, or ways of measuring, a given impact will vary with the content of the research. Possible indicators were identified for each impact for four home economics research areas: family economic stability and security; energy and environment; food, nutrition, and health; and family strengths. Illustrative desk audits were done for several of the research areas.

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PREAMBLE

Research is one means through which home economists seek to improve the well-being of families and individuals. Administrators and policy makers often ask, "What has been the impact of that research"? Providing an answer has not proved to be either simple or straightforward. Like other professional groups who have been challenged to assess impact—for example, workers in agriculture or the Cooperative Extension Service—home economists have found that impact evaluation involves complex methodological problems. Ways of handling these methodological problems must be devised so that evaluation of the impact of home economics research can be undertaken.

In 1982 a request to the Research Committee of the North Central Association of Experiment Station Directors to establish a regional research committee (NCR-133) on Home Economics Research Evaluation was approved. The committee was charged with the following:

- (1) Critical examination of the components of research evaluation including consideration of:
 - (a) the conceptual problems in research evaluation;
 - (b) the criteria for measurement of research results as well as measurement questions per se;
 - (c) the time frame for measurement; and
 - (d) the qualitative aspects of research benefits.
- (2) Critical examination of methodologies for research evaluation including, but not limited to, cost-effectiveness and benefit-cost ratios.
- (3) Development of working papers, proceedings, and/or possibly a monograph out of the committee's annual meetings to reflect the outcomes of the committee's deliberations.

This monograph grew out of the committee's efforts to answer the question, "How should home economics research be evaluated?" The nature of the problem and

methodological issues are described. A framework for evaluation studies, which the committee believes will provide information meaningful to program managers and funding agencies, is proposed. In this framework both quantitative and qualitative measures are utilized to the extent that they are available or can be developed. The committee hopes that the evaluation framework outlined in the monograph will encourage and assist home economics researchers in designing and reporting studies in ways that the impacts of the research on family and individual well-being is identifiable.

The committee based its work on several beliefs:

- that the approach should accommodate all major lines of home economics research;
- that evaluation of the impact of home economics research should be issue oriented rather than discipline oriented to reflect the interdisciplinary nature of the field;
- that the framework should permit aggregation of impacts in order to display the combined effect of clusters of projects or programs; and
- that it is of vital importance that the nation's families and those representing their interests in funding and policy-making bodies have an accurate assessment of the impact of home economics research.

The sections which follow propose a general framework, including evaluation guidelines and types of indicators. The most essential elements of this framework are provided in Exhibits 1, 3, and 5. Examples of specific indicators regarding the utilization of research results by institutions serving families and by families themselves are summarized in Exhibits 7, 8, 10, 11, and 12. The various sections were authored by individuals, but the ideas and drafts were extensively discussed by the committee which determined the final content and form of this publication.

Home Economics Research Impacts: Framework for Evaluation

INTRODUCTION: PURPOSES OF EVALUATION*

Research is one means through which home economists seek to improve the well-being of families and individuals. Administrators and policy makers often ask, “What has been the impact of that research”? It is not a simple task to answer this question. Home economists have found that efforts to assess the impact of research involves complex methodological problems. Ways of handling these methodological problems must be developed so that needed evaluation studies of home economics research impacts can be undertaken.

The purpose and use of an evaluation must be defined at the outset if the evaluation is to be effective and efficient. Stufflebeam and Webster (24) identified 13 types of evaluation according to use and purpose. Those potentially related to this monograph include:

- **politically-oriented studies** — characterized by Stufflebeam and Webster as pseudo-evaluations because they are intended to produce a pre-determined picture of the program.
- **objectives-based studies** — designed to assess accomplishment of a program’s stated objectives.
- **accountability studies** — designed to assess whether or not assigned responsibilities of an institution have been performed.
- **management information systems** — designed to supply program managers with information needed to make decisions about budget, program direction, etc.
- **policy studies** — designed “to identify and assess, for society or some segment of society, the merits of competing policies” (24, p. 11).
- **decision-oriented studies** — designed to be used both “proactively to help improve a program as well as retroactively to judge its worth” (24, p. 12), and intended “to provide a knowledge and value base for making and defending decisions” (24, p. 12).
- **consumer-oriented studies** — designed to “assess the impact of a program on societal values and needs, showing the relative merits of alternative programs” and, thereby, to “help taxpayers and practitioners to make wise choices in their purchase of educational goods and services” (24, p. 13).

- **client-centered studies** — designed to “help people who are involved in a program to evaluate it and use the evaluation to improve it” (24, p. 13).

The proposal for the establishment of NCR-133 made it clear that the intent was *not* to design or encourage politically-oriented evaluation studies.

Several other evaluation types also appear unsuited to the committee’s purpose:

- **objectives-based studies** — designed to evaluate projects or programs, such as individual research or educational projects, for which specific objectives can be identified. The committee’s charge is the total home economics research effort which encompasses diverse programs and projects independently designed and implemented. The committee noted, however, the importance of objectives-based evaluation. Guidelines appropriate to this type of evaluation have been developed by the North Central Research Committee on Clothing Consumption and Distribution (NCR-65). A copy of those guidelines is included in Appendix A. The committee believes that such evaluation is important and recommends it as a complementary approach to that proposed here.
- **accountability studies** — since accountability studies are usually institution or program specific, they are not suitable to the type of evaluation being considered here. An accountability study might be performed regarding the use of federal funds, but nothing in the NCR-133 proposal indicates this is a purpose of the committee.
- **management information studies** — information provided by the Current Research Information System (CRIS) of the U.S. Department of Agriculture.
- **policy studies** — evaluation of alternative policies is not part of the committee’s concern, except with respect to nationwide policies (if any exist) that affect home economics research quality.
- **decision-oriented or client-oriented studies** — not appropriate since the committee’s charge was to consider the total home economics research effort. A decision-oriented study focuses on a specific decision situation; a client-oriented study is primarily concerned with diagnostic information.

*by Frances M. Magrabi

The need identified in the proposal for the establishment of NCR-133 was for assessments which would help in the establishment of priorities within home economics and in demonstrating potential payoffs to the public. This implies studies of the consumer-oriented type with, perhaps, some coverage of decision- or client-oriented topics. Similar views have guided the home economics contributing project to the Interregional Research, National Agricultural Research Planning and Analysis Project (18).

According to Stufflebeam and Webster, questions for consumer-oriented studies may come from society or from the organization's constituents, but all relate to the general question, "Which alternative (i.e., research program) is the best buy, given its costs, needs of the clientele and the values of society?" Often the study is done by an independent evaluator. One of its greatest advantages is its potentially high credibility, but Stufflebeam and Webster cited disadvantages, also: "...it can be so independent from practitioners that it may not assist them to do a better job of serving consumers. Also, the consumer-oriented study requires a highly credible and competent expert plus sufficient resources to allow the expert to conduct a thorough study. Often this approach is too costly to be carried out well and produces faulty, unrealistic data" (24, p. 13).

In the following sections the main elements of a conceptual model for evaluating home economics research are outlined, methodological alternatives for implementing the model are presented, and impacts to be measured, together with examples of indicators, are proposed.

CONCEPTUAL FRAMEWORK FOR EVALUATION OF IMPACTS*

In this section concepts underlying the evaluation of home economics research are examined. In the first part the ultimate goal of home economics research is presented. This is followed by the development of a model describing the process through which the benefits of home economics research accrue to society. The third section focuses on a model delineating the types of impacts or benefits arising from home economics research. The conceptual section closes with a discussion of the various types of designs which can be used to evaluate the impact(s) of home economics research.

A. GOAL OF HOME ECONOMICS RESEARCH

The goal of home economics, in the broadest sense, is to improve the well-being of individuals and families. The report on *National Goals and Guidelines for Research in Home Economics* stated that home economics focuses "upon man's well-being, with special emphasis on the

family" and its needs and concerns (23, p. 2). The report on *A Comprehensive Plan for New Initiatives in Home Economics, Research, Extension, and Higher Education* identified the needs and concerns of families as being "to care for their members, promote individual growth and development, and meet their needs for housing, fuel, and other requirements essential for health and safety" (25, Preface).

"Well-being" describes a desired state of affairs—the state of being well, happy, or prosperous. Since an array of needs and concerns are involved in the determination of well-being, the overall judgment on level of well-being reflects not only an assessment of how well each individual need is satisfied, but also a measure of total well-being which necessitates a judgment regarding the relative importance of each need or concern. These weights reflect the values of individuals or society. Well-being, as it is used to guide the research efforts of home economists, does not imply solely an individual's judgment regarding his or her own state of being, but implies a consensus judgment of society regarding the state of wellness, happiness and prosperity of individuals or groups. It reflects an overall judgment regarding the extent to which family needs and concerns have been satisfied.

B. PROCESS MODEL

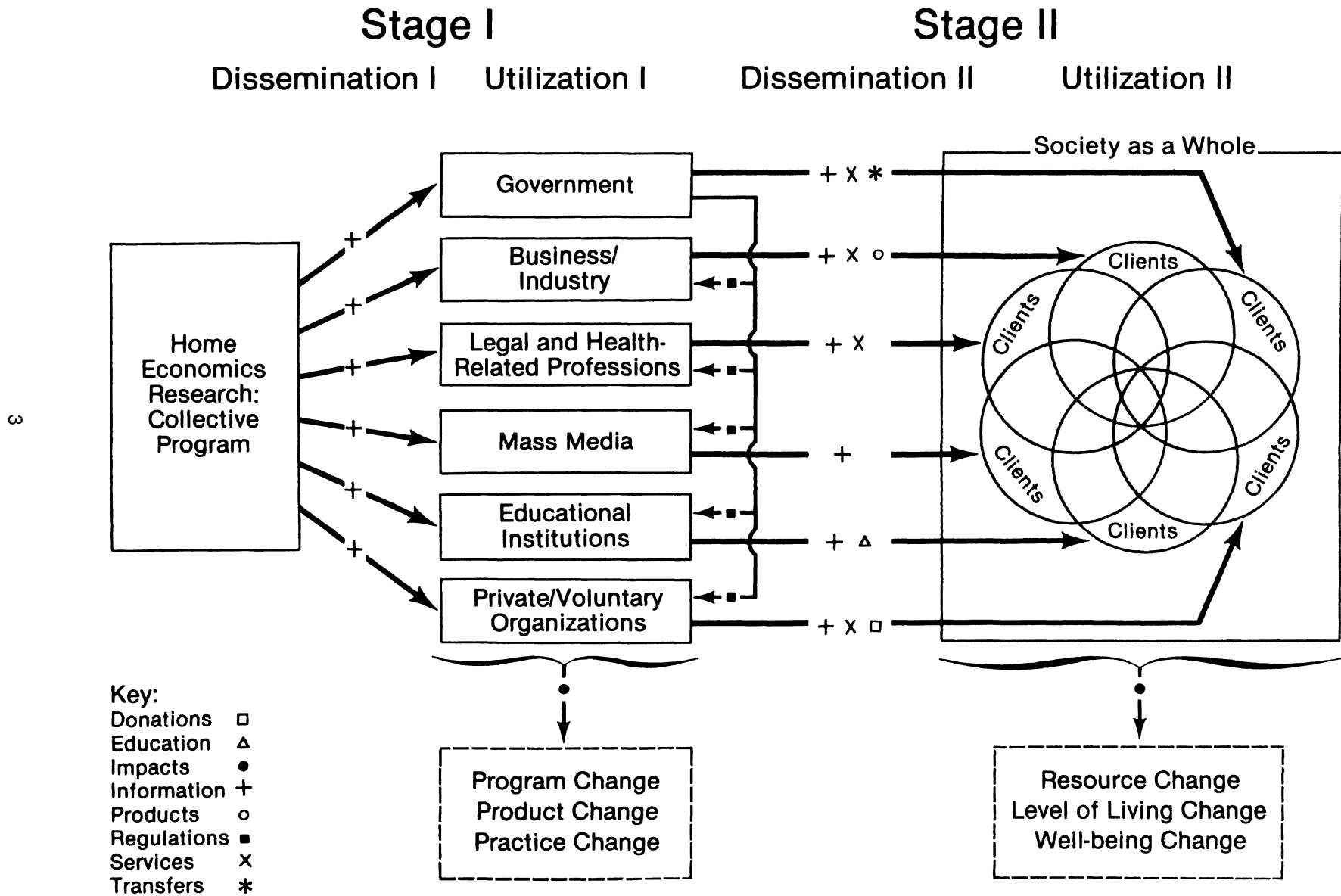
A model showing the principal means by which home economics research affects families and individuals is shown in Exhibit 1. In this model, home economics research produces output in the form of information. This information, which may be used internally by other researchers, is ultimately transmitted to user organizations which disseminate various kinds of output (education, other services, products, transfer payments, regulations) to client households. Home economics research information may be transmitted to households as part of an educational program or may shape the nature of user-organization output. Thus, there are two stages at which the impact of home economics research might be observed: (1) Utilization I where information is utilized by private/voluntary groups, educational institutions, government, or business/industry, and might have impacts on programs, products, or practices, and (2) Utilization II where the output of the intervening organizations is used by households, and might affect their resources (both human and non-human), their use of resources, their level of living, and, ultimately, their well-being. In some cases researchers participate in Stage II as well as Stage I dissemination.

The utilization of research by researchers in other fields of study is not described in the model although this is a means by which a given research project may have an indirect impact on families. If the objective of an evaluation project were to trace and assess the impact of individual research projects, this kind of utilization might need to be measured.

A complete evaluation of the impact of home economics research would need to verify that dissemination and utilization had taken place in both Stages I and II as well as assess Utilization I and Utilization II impacts. Direct

*by Frances M. Magrabi

Exhibit 1. One-Directional Impact Model, Showing How Home Economics Research Impacts on Families and Individuals



effects of home economics research will generally be limited to those households that actually receive the output from Utilization I through Dissemination II as clients, program participants or customers of Stage I institutions; therefore, to evaluate the impact of home economics research on families the whole system should be considered. It may be necessary to make assumptions about transmission, utilization and impacts to facilitate evaluation; however, assumption may weaken the credibility of the conclusions. Given the scope, complexity and cost of performing a complete evaluation, some combination of assumptions, secondary data, judgmental evaluations, and actual measurement of impacts on households may be necessary. In many cases the evaluation will need to focus on the transmission and utilization of specific pieces of information; therefore, sampling from the Dissemination I information flow may be necessary. A further complication is that home economics research information is generally one element of an educational program and is one of many influences that affects the nature of programs, products and practices. Household acceptance and utilization of research output is likely to be affected, not only by the quality of the home economics research, but by the effectiveness and style of operation of the disseminators; therefore, evaluation of Utilization II impacts implies evaluation of disseminators.

1. Utilization of results by educational institutions.

The past decade has seen intensive and systematic attention given to evaluation of Cooperative Extension Service programs (11, pp. 3-4). Bennett has identified seven categories of criteria for evaluating Cooperative Extension Service programs. The categories were conceptualized as a hierarchy culminating in the solving of client problems. These levels and corresponding indicators are summarized in Exhibit 2. Several levels could provide evidence of the dissemination, utilization, and impact of research results.

2. Utilization of results by industry.

Activity levels comparable to those identified by Cooperative Extension Service can be identified for industry and then linked to the data needs of the research evaluator (Exhibit 2). Evidence from the early industry levels is often not available causing difficulties when trying to demonstrate that home economics research was utilized by the firm.

3. Utilization of results by other Stage I organizations.

Internal processes in these organizations are varied and often not well defined and documented; therefore, Stage I utilization may be difficult to demonstrate. Data on their output and its impact on families may be available and pertinent to the needs of the research evaluator.

C. IMPACT MODEL

Those impacts that are of interest to home economists are impacts that reflect a consensus judgment of society regarding the well-being of an individual or group. This judgment may be made either from evidence regarding state of health or satisfaction or from evidence that individuals and families have and/or can utilize appropriate and sufficient resources for attaining well-being. For example, studies are done on health or nutritional status to find out how many persons are below some specified level. Studies may be performed to assess overall satisfaction with life or satisfaction in one's life domain such as marriage. Studies may be conducted to assess nutritional knowledge or consumer skills. Some resources, such as income, are deemed so essential to well-being that the government regularly collects statistics on them.

Consensus on the importance of given impacts often arise from public concern over perceived problems and knowledge (often based on research) of the source of the problems and/or means of remedying them. The consensus is often expressed in legislation such as that regulating food safety, or in publicly funded programs such as shelters for the homeless or income maintenance programs. Minimum standards such as the poverty threshold for income are sometimes promulgated. Standards are frequently lacking and are replaced by the general belief that more is better.

In simplified form, the goal of improved well-being might be conceptualized as the end result of a process in which resources are used to create a level of living from which well-being results:

Resources → Level of Living → Well-being.

The level of living that is attained depends not only on the amount or level of resources, but also on the balance among types of resources and the way they are used. Impacts that home economics research might have on this process are summarized in Exhibit 3 and are discussed below.

1. Impact on level and balance of household resources.

This impact may involve a change in the quantity of a resource, a change in quality of a resource, or both. For example, one impact of research on time-use patterns might be to show home workers how to organize their activities so that more time becomes available for a given activity (change in quantity), but other research might also result in improved skills of the worker (change in quality). The balance between types of resources may be significant since several types are often used in conjunction with one another.

Several types of resources should be considered. They include:

Exhibit 2. Relation of Research Evaluation to Activities of Intermediate Users

User	User Activity	Examples of Performance Indicators	Pertinence to Evaluation of Research
Cooperative Extension Service^a	Level 1: Inputs—human and non-human resources	<ul style="list-style-type: none"> • Amount of staff time on program • Staff qualifications 	Could provide evidence of Utilization I
	Level 2: Activities performed by staff	<ul style="list-style-type: none"> • Publicizing programs • Transmitting subject matter 	Could provide evidence of Utilization I
	Level 3: People involvement - involvement of audiences	<ul style="list-style-type: none"> • Number of program participants • Percent of membership attending club meetings 	Combined with evidence from Level 2, it could provide evidence of Dissemination II
	Level 4: Reaction—audience reactions to their involvement	<ul style="list-style-type: none"> • Interest in educational events • Acceptance of leaders 	No direct relationship
	Level 5: KASA change level — change in knowledge, attitudes, skills, and aspirations	<ul style="list-style-type: none"> • Direction and extent of change • Durability of change 	Combined with evidence from Levels 2 and 3, it could provide evidence of utilization by families
	Level 6: Practice change — changes in the behavior of clients	<ul style="list-style-type: none"> • Adoption of new technology or practice 	Combined with evidence from Levels 2 and 3, it could provide evidence of utilization by families and perhaps impact on resource use
	Level 7: End results	<ul style="list-style-type: none"> • Percent of audience who experienced improvement in some aspect of their lives 	Combined with evidence from Levels 2 and 3 plus 5 or 6, it could provide evidence of impact on resources, resource use, level of living, or well-being
Industry	Level 1: Product development	<ul style="list-style-type: none"> • Not usually available 	Could provide evidence of Utilization I
	Level 2: Product testing	<ul style="list-style-type: none"> • Not usually available 	Could provide evidence of Utilization I
	Level 3: Production of product	<ul style="list-style-type: none"> • Data on units produced 	Combined with Level 1 or other evidence linking product to research, it could provide evidence for Utilization I
	Level 4: Product marketing	<ul style="list-style-type: none"> • Data on availability of product in retail outlets • Data on advertising of product • Data on intended target audience for products 	Combined with evidence from Levels 1 and 2 (if available) or other evidence linking product to research, it could provide evidence of Dissemination II
	Level 5: Purchase of product by consumers	<ul style="list-style-type: none"> • Data on product sales • Data on ownership of product 	Combined with evidence linking product to research, it could provide evidence of Dissemination II
	Level 6: Use of product by consumers	<ul style="list-style-type: none"> • Data on frequency of product use in given activities 	Combined with evidence linking product to research, it could provide evidence of Utilization II and perhaps of impact on resources and/or resource use and/or level of living
	Level 7: End results	<ul style="list-style-type: none"> • Data on consumer satisfaction 	Combined with evidence from Level 6 and evidence linking product to research, it could provide evidence of impact on level of living and/or well-being

^aUser activities and examples of performance indicators for Cooperative Extension Service are taken from Bennett (3)

Exhibit 3. Impacts of Home Economics Research on the Process of Achieving Well-Being

Elements	Research Impacts
1. Level and balance of household resources	<ul style="list-style-type: none">• Change in quantity or quality of resources available to the family—either the overall level or the level of selected resources.• Change in balance among resources.
a. Human resources	<ul style="list-style-type: none">• Change in physical, cognitive, or affective attributes of individuals.
b. Non-human resources	<ul style="list-style-type: none">• Change in money income, real income (i.e., flow of goods and services), wealth, or environment.• Change in gap between level of resource and standard. Standards might include previous level experienced, average for a reference group, or that required to maintain a given level of living.
2. Use of resources	<ul style="list-style-type: none">• Reduction in amount of resource used—either in overall level of resources or in selected resources—with no change in level of living.• Increase in level of living with no increase in resources (either overall or in selected resources).• Substitutions of one type of resource for another.• Reduction in use of non-renewable resources, while maintaining level of living above some minimum.
3. Level of living	<ul style="list-style-type: none">• Increase in level of living.• Change in gap between level attained (either overall or in selected components) and a standard, such as previous level experience, average level of reference group, or level recommended by societal consensus.
4. Well-being	<ul style="list-style-type: none">• Change in level of satisfaction experienced by families or individuals.

a. Human resources/human capital.

These are the physical, cognitive, and affective capabilities of individual household members, regarded as inputs in the process which yields well-being.

They include:

- level of health and physical performance
- level of skills and cognitive attainments
- attitudes and beliefs (12)

Utilization of research information to change the level, balance, or use of resources takes place through its influence on behavior. Some examples of the way research information may be used in decision making are presented in Exhibit 4. Research information may also change attitudes, beliefs, goals, or perception of opportunities. Such changes, in addition to influencing rational choices, may influence impulse behavior and other kinds of non-rational choice behavior, change the probability of a given behavior occurring, and also affect the level of satisfaction or well-being experienced by an individual at a given level of living.

b. Non-human resources.

These include:

- the level of total money and non-money income or assets in comparison with some standard such as the average for some group, previous levels, or in comparison with that required to maintain a given level of living without dependency on subsidies and without undue risk that circumstances might force reductions in level.
- the level of a specific component or components of money or non-money income, or environment in comparison with some standard such as one of those mentioned above.

2. Impact on how resources are used

This impact includes both allocation of resources among uses and the manner in which they are used. It can be evaluated with respect to improved efficiency or conservation of resources—both human and non-human. Improved efficiency implies that fewer resources are used to achieve a given level of living, or alternatively, the level of living attained through use of a given level of resources increases. Conservation implies a focus on the level of

Exhibit 4. Utilization of Home Economics Research Information in Rational Decision-Making

Examples of Utilization

Manner of Utilization	Stage I	Stage II
1. Research indicates existence of a problem and the need for decision and action.	<ul style="list-style-type: none"> • Organization perceives, based on the new research information, that households are experiencing a new kind of problem or that previously known problems are increasing in frequency and/or severity. The organization considers whether to initiate a new program to help families cope, modify an existing program, or, perhaps, obtain new and pertinent information to disseminate through existing programs. • Organization perceives, based on new research information, that its goals or objectives are inappropriate—e.g., already accomplished, unattainable, or other objectives are more relevant—or that, for similar reasons, its priorities should be revised. The organization initiates a review and revision process for its goals, objectives and priorities. • Research results indicate to government the existence of consumer problems (e.g., problems with the safety of a given product or with selling practices). The agency must decide whether action (e.g., product recall or promulgation of a new regulation) can and should be taken under existing legislation or whether new legislation is needed. 	<ul style="list-style-type: none"> • Member of household is alerted to likelihood of harmful effects from a practice or product previously adopted and in use in the household. Household takes action to discontinue practice or use of product thereby reducing the likelihood of harm, thus protecting its level of living and/or well-being. • Member of household perceives that old goals and priorities are inappropriate or new ones possible. Household members discuss goals and priorities and agree either to retain the old goals and priorities or to adopt a new version of them. • Member of household is alerted to the possibility that household will encounter a new problem (that will reduce its resources, level of living or well-being)—e.g., a deceptive selling practice or hazardous product. Household takes appropriate action to avoid problem.
2. Research identifies or makes available alternatives not previously known or considered.	<ul style="list-style-type: none"> • Research has produced a new technology. A profit-making firm uses it to develop a new household use. Product is marketed. • Research has developed new knowledge or practices which could be used by households, e.g., improved work methods or more effective behavior patterns. Cooperative Extension develops materials to show households the advantages of the new technology or practice and how to use it. Materials are disseminated to households (e.g., 7, pp. 21-22; 22b, pp. 25-26, 39-41, 71-72). 	<ul style="list-style-type: none"> • Household purchaser becomes aware of new product or service on the market and senses that use of the product might raise the household's level of living by providing better quality in use or by reducing the need for resources and thus freeing resources for other uses. Householder investigates and reaches decision regarding purchase of product. • Household member becomes aware of a new knowledge or practice that might be used in the household. Member decides to add this to his/her repertoire, thus enhancing the human resources available to the household.
3. Research provides information that is pertinent to the evaluation of alternatives.	<ul style="list-style-type: none"> • Government is in the process of considering (or re-considering) alternative policies or legislative actions—e.g., a change in the eligibility requirements for an entitlement program designed to help the poor. Research results indicate the probable impacts of alternatives on the well-being of poor families. • Research shows how a given product currently on the market will perform in use and/or in its impact on resources, level of living, or well-being. Cooperative Extension and/or private/voluntary organizations develop materials to convey this information to households and explain its pertinence to their decisions (e.g., 22b, pp. 61-62.) 	<ul style="list-style-type: none"> • Individual becomes aware of research results showing probable impact on family well-being of a new government policy under consideration or the impact of a previously adopted policy. Individual writes to legislator or takes other action to influence government. • Household member searches for information pertaining to a purchase under consideration and uses the information to help assess alternatives in terms of resource requirements for acquisition and product's use, and effectiveness in contributing to level of living and well-being.

non-renewable resources used for living in comparison with some standard of fair or prudent use usually taking into account the need to provide for some minimum level of living. In either case the same kinds of data and form of analysis would be used. Differences would appear primarily in the interpretation of the results and in the amount of attention given to specific resources such as energy, land, water, and genetic resources.

3. Impact on level of living

Davis defined the plane or level of living as “a reality experienced by an individual or group. It is made up of a complex combination of consumption, working conditions, possessions, freedoms, and ‘atmosphere,’ and the balance or harmony among them, in relation to needs and felt wants” (6, p. 9). He defined consumption, a component of level of living, as “having available, as well as using, free goods of nature and public goods that are utilized without charge, and self-service and mutual service, in addition to purchased commodities and services and the use of semi-durable and durable goods owned or rented” (6, p. 9). Level of living is not well-being but is that which yields the satisfactions or utility which the individual experiences as well-being. Measures of the components that make up level of living are, therefore, not direct measures of well-being but are measures of that which is required for well-being.

Some social scientists use the term “quality of life” (QOL) in a way that is indistinguishable from “level of living.” McCall, for example, stated QOL is “the obtaining of the necessary conditions for happiness” (17, p. 243). Harland defined QOL as “. . . the totality of those goods, services, situations and states-of-affairs which are the basic nature of human life—the essential properties of life which are articulated as being needed or wanted” (quoted in Harwood, 14, p. 471). Liu, on the other hand (according to Harwood), defined QOL as “the output of two aggregate input factors: physical (quantifiable goods, services, material wealth, etc.) and spiritual (‘nonmeasurable’ psychological factors such as community belongingness, esteem, self-actualization, etc.)” (14, p. 471). Harwood himself did not differentiate between QOL as conditions for happiness (level of living) and QOL as the output of these conditions (14).

This type of indicator would include:

- the overall level attained in comparison with some standard such as the average level for some population or group, or levels attained in previous years
- the level attained for some specific component of consumption or living, such as food or housing, in comparison with some standard, such as average level, previous level, desired level, or level defined as ideal by scientists or policy makers

4. Impact on well-being, measured directly

Andrews equated well-being with quality of life, that is, “the extent to which pleasure and satisfaction characterize human existence and the extent to which people can

avoid the various miseries which are potentially the lot of each of us” (1, p. 280). Christian (4), discussing efforts of the Organization for Economic Cooperation and Development (OECD) to construct international social indicators, described the purpose of those indicators as the measurement of state of well-being and suggested that the name be changed to well-being indicators. A variety of measures have been developed (e.g., 2, 9, 16). A disadvantage is the lack of a generally agreed on set of indicators and corresponding weights (13). A further difficulty is that other definitions of the term, “quality of life,” are in use (e.g., 14, 17). Finally, the concept provides little guidance concerning *how* home economics research affects well-being. Notwithstanding the difficulties associated with this type of measure as an assessment of over-all well-being, specific indicators of this type, if generally accepted and widely used, may be valid and useful for the evaluation of home economics research.

D. DESIGN OF EVALUATION STUDIES

1. Evaluation study designs

Many types of evaluation studies could be designed. Six major types, categorized by design, are described in Exhibit 5. Some advantages and disadvantages of each type are presented in Exhibit 6. The desk audit is the simplest, quickest, and least costly to perform of the six types. An example of a desk audit is the evaluation by the Food and Agricultural Organization of the United Nations in 1979 of a sample of their agricultural projects to identify those having potential for improving the nutritional status of vulnerable population groups. The result of that audit, which showed that few had such potential, was reported to the organization’s policy-making bodies. A desk audit of an appropriately defined sample of home economics publications, especially if used in conjunction with other studies, could provide evidence of the only aspect that is within the control of the researcher—the potential for the research to have a given impact.

The research and development (R & D) study is, perhaps, the least defensible as a provider of evaluation information even though it has an evaluation component. It could never be a major source of evaluative evidence for the total home economics research effort for two reasons: (1) it requires substantial time and effort for the development and evaluation aspects of each research project, and (2) many research projects, including many of the most significant ones, are not suited to be linked with a development component.

The experiment bears a superficial similarity to the R & D project, but differs in that the design permits statistical tests to be made to determine if home economics research has had a significant influence. The design would be complex since the research effect and the dissemination effect would have to be separated. The difficulty is in designing the comparison treatment, i.e., the treatment lacking the input of home economics research information. For example, if the experiment concerns an educational program, would the comparison group receive

Exhibit 5. Types of Designs Which Could Be Used to Evaluate Home Economics Research

Type	Brief Description	Types of Evidence Provided ^a				
		Stage I		Stage II		Final Impact
		D	U	D	U	
Desk audit	A sample is drawn, either of research proposals or of research reports in a given subject area. Each is evaluated with respect to its potential for achieving a given impact, based on assumptions about dissemination and utilization.	A	A	A	A	E
Research and development study	Controlled utilization and dissemination of the results of a selected research study via a selected channel (e.g., Cooperative Extension) are observed and described. Data on client utilization and impact are obtained, either by objective measures of client status and behavior or by client self-reports. Results may be extrapolated to a larger population.	C	C	C	M	M
Experiment	An experiment is designed in which research results utilized in some form of instructional or informational materials are used with a sample of clients. A comparable sample receives similar treatment without the research results. Utilization by clients is ensured and the impact is measured. Results may be extrapolated to a larger population by use of assumptions about utilization and dissemination and the degree to which experimental subjects are representative of the larger population.					
Disseminator survey	Stage I utilization is measured either by use of a questionnaire administered to personnel in a given Stage I institution (e.g., Cooperative Extension) or by an audit of materials disseminated to clients. Dissemination data may be available from management or accountability reports of the organization or as part of a questionnaire administered to personnel.	A	M	M	A	A
Consumer study	Study may use either original data collected in a specially designed survey of consumers, or use secondary data collected for other purposes. If the former approach is used, a sample of individuals or households is drawn, either from the clients of a Stage I organization or from the general population. Data are obtained regarding their utilization of one or more products, technologies, or knowledge ascribable to home economics research. Data may also be obtained about impacts by asking for retrospective information and client self-evaluations. If secondary data are used, they are selected to approximate as closely as possible the evidence indicated above but may come from several different sources. Assumptions are required regarding applicability and appropriateness for the analysis.	A	A	A	M	M
Longitudinal study	Such studies would focus on consumer impacts, but would probably include a disseminator survey and desk audit performed at different points in time. The desk audit could be performed when research was approved or in progress (or at any later time) and would provide an estimate of potential impact with which actual impact could be compared. The disseminator survey might be performed 1 to 2 years after publication of the research results and the consumer surveys prior to research dissemination and a year or more later.	A	M	M	M	E/M
	^a D = Dissemination E = Estimated	U = Utilization C = Controlled		A = Assumed M = Measured		

Exhibit 6. Advantages and Disadvantages of Research Evaluation Designs

Type	Advantages	Disadvantages
Desk audit	<ul style="list-style-type: none"> • The least costly to perform, requires little time to complete, and can provide comprehensive assessment of program. • Results are very usable by program managers to decide on level and direction of program because the results are available and can be as comprehensive as desired. • Cooperation of Stage I institutions not required. 	<ul style="list-style-type: none"> • Results are based on the judgment of the auditor and are contingent on dissemination and utilization which may not occur.
Research development study	<ul style="list-style-type: none"> • Study is relatively low cost. • Generally researcher and Stage I utilizer/disseminator work together with beneficial results accruing to the output and to their knowledge and understanding of each other's work • Procedures and materials developed in the study may provide a model or be usable in themselves in other settings. 	<ul style="list-style-type: none"> • Results are not necessarily generalizable. Client group may not be typical, and there may be qualities and features in the utilization/dissemination process that were unique to the dissemination. • Cooperation of Stage I user required. • Cannot be used for comprehensive program evaluation.
Experiment	<ul style="list-style-type: none"> • If experiment is carefully designed and controlled, results may provide a valid and accurate measure of potential results of the research. 	<ul style="list-style-type: none"> • Study may be quite costly and time consuming. • Study measures only the potential impact of research. Actual impact is contingent on dissemination and utilization. • Cooperation of Stage I user required. • Not usable for evaluating all research output.
Disseminator survey	<ul style="list-style-type: none"> • Provides evidence regarding an essential step leading to final utilization and impact. • Costs may be moderate provided that Stage I organization has a good record-keeping system and is willing to cooperate with evaluator. • Would increase awareness of home economics research as an information source. 	<ul style="list-style-type: none"> • Actual impact on client's well-being may not be in accord with expectations. • Cooperation of Stage I personnel required. • May not be usable for evaluating all research output. • Persuasiveness of results will depend, in part, on reputation of Stage I organization for providing good service to consumers. • Results are limited to disseminator channels studied.
Consumer study	<ul style="list-style-type: none"> • The fact that it obtains data directly from clients or the general public adds to the credibility of its results. • A statistically sound sample can be used. • Cooperation of Stage I institutions not required. 	<ul style="list-style-type: none"> • Usually only a few highly recognizable research products can be included in the evaluation because of the difficulty of linking knowledge and commodities used by the consumer with the original research. • Claims made by the home economics researcher may lack credibility because many other sources contributed to or affected the final impact.
Longitudinal study	<ul style="list-style-type: none"> • Potentially, the most credible of the study types since all steps are covered either by measurement or by credible assumptions. 	<ul style="list-style-type: none"> • Not usable for evaluating all research output. • Costly and time consuming to conduct; hence, the amount of research which can be evaluated in this way is severely limited. • Cooperation of Stage I institutions required.

information that the new research had shown to be unsound? Moreover, the effect of any single piece of information on the consumer's well-being is likely to be very small and difficult to differentiate from many other influences. Experiments may have potential as part of a total evaluation program, but could only be used in special circumstances.

A disseminator survey has several advantages, when used as the sole means of evaluation or in conjunction with other types. Although it would include no measure of impact of research on consumers, it would measure the extent to which it was available to them. If Stage I institutions had good documentation of research sources used, the survey would not be costly to perform. The difficulty is that documentation is often not good. For example, many publications of the Cooperative Extension Service do not cite information sources. Use of research results in policy-making is even more difficult to document, since many persons are usually involved and there is little record-keeping, either of information sources or of individuals who participated in the policy-making process. Nevertheless, disseminator surveys may be worth attempting. Although the results would be incomplete, Stage I utilization would indicate the extent to which home economics research is being utilized. The reputation of the Stage I institutions surveyed could be used to infer the quality of the research they use.

The consumer study is likely to be the most difficult to design, but is likely to be the most convincing if well done. The principal difficulty lies in designing a questionnaire or interview schedule that will not only provide evidence of the respondent's status with respect to the impact variables but will also display connections between those impacts and home economics research. It is likely that the connection will be easiest to demonstrate if a longitudinal study is conducted and if the respondents are members of a group, such as the Expanded Food and Nutrition Education Program (EFNEP), that is known to receive home economics-based information or services. Such groups, however, are likely to comprise only a small fraction of the potential consumers of the research. In addition, when using a group such as EFNEP participants, the impact of the home economics research may be impossible to distinguish from the impact of other aspects of the program.

2. Methodological issues

Several issues relevant to designing a program or project to evaluate home economics research have been addressed. This section summarizes those issues and raises additional ones.

a. When should planning for evaluation take place?

It is desirable to plan for evaluation of impacts at the time a research project is designed. At least two evaluation scenarios apply: (1) the impact of the individual research project to be evaluated, and (2) the impact of a larger program or thrust to which the individual research project contributes. In either case, the intended impacts need to be identified in advance and the project planned in such

a way that linkage to impacts can be identified. This may sometimes mean collecting data on impact variables or linkage-to-impact variables as part of the project, or, if relationships between the study variables and impact variables have previously been established, citing the results of earlier studies. Agreement on the major impacts to be sought from a national thrust or given research program should have occurred before this kind of planning occurs.

b. How should home economics research be defined operationally?

Conceptually, home economics research might be defined as any research that contributes to the goals of home economics as defined in *National Goals and Guidelines for Research in Home Economics* (23) or some other accepted source. Operationally, however, such a definition is likely to be unsatisfactory since it may be incompatible with the purpose of the evaluation. If the evaluation is intended to provide information relevant to program or budget decisions, the research to be evaluated should have been performed by the organizations involved in the programming or budgeting decisions. Research contributing to goals listed in *National Goals and Guidelines for Research in Home Economics* is being performed by many individuals and organizations not associated with home economics. An evaluation covering this entire body of research would be subject to the criticism that it claimed credit for research done in other disciplines or fields of study.

An alternative is to define home economics research as research performed by members of organizational units that are identified as home economics units. This definition may be overly restrictive since it would exclude research by home economists in other organizational units. Judgment and knowledge of the organizations would be required for classification.

A third alternative is to consider only the research of a given programming and budgeting unit, e.g., the U.S. Department of Agriculture and its cooperating institutions. Projects in this body of research could be classified according to whether or not they contribute to home economics goals. Such a definition would result in excluding research done by home economists not associated with the U.S. Department of Agriculture and its cooperators.

In summary, no single operational definition of home economics research is suited to all purposes. The purpose for which the evaluation is being done should be a major consideration in selecting the definition to be used. The extent of error or bias due to the definition used, should be acknowledged and, if possible, estimated.

c. What standards shall be applied in designing the evaluations?

Several organizations have published evaluation standards (10, 15, 26); however, there is much overlap in these standards (5) and they are organized differently. The General Accounting Office (GAO) standards (26) are grouped under planning, data collection, data analysis, reporting results, and data disclosure. The standards issued by the Joint Committee on Standards

for Educational Evaluation (15) are presented under utility, feasibility, propriety, and accuracy. The Evaluation Research Society standards (10) are organized under formulation and negotiation, structure and design, data collection and preparation, data analysis and interpretation, communication and disclosure, and use of results.

The set that seems designed to be most generally applicable is that developed by the Evaluation Research Society. Conformance with those standards would not only enhance the quality of studies conducted to evaluate home economics research, but would also add to their credibility.

d. What time frame should be adopted?

Several aspects of time might be considered. How much time must elapse before the impact is observable in the population? How long before the maximum number of potential users has been reached? How long will the impact persist for individuals? From a budget planning point of view, these may be translated into two questions: (1) When are evaluation results needed in relation to decisions about research program direction and budgeting? (2) How long after completion of the research should impact be measured? These two aspects often work against each other. For program and budget decisions, *ex ante* evaluation is usually needed; however, this type of evaluation does not involve actual measure of dissemination, utilization, and impact, and must also assume the completion of the project. *Ex post* evaluation can provide data on dissemination, utilization, and/or impact but those data may not be available for program and budget decisions concerning the research in question.

If evaluation results are to be used in making program decisions, they are needed as rapidly as possible, preferably before *any* research is funded but certainly before the research program has changed so much that the evaluation is inapplicable (20, pp. 19-20). A desk audit would be most timely with respect to making program decisions, but a disseminator survey would also provide usable information in many cases. Experiments could be completed in a timely manner, but may not adequately represent total research output.

If the primary concern of evaluation is to measure impact, time must be allowed for dissemination and utilization by Stage I institutions and by consumers. It is likely that the impact will not disappear until after a further time lapse. The degree of impact, measured along a time continuum, may resemble a normal curve. If timeliness with respect to program decisions were not a consideration, the ideal measure might have two parts: one when impact was at its maximum to assess numbers of persons benefiting, and a longitudinal study to assess how long the impact persists for individuals. Program decision factors, when a consideration, are likely to dictate the amount of time lapse before impact assessment and frequency of data collections. The ideal might be a series of evaluations to learn how impact changes over time. If the evaluation is to be conducted at one point in time, an estimate will have to be made of the amount of time lapse before substantial impact can be expected and how long the impact will persist.

e. How should the research output be sampled?

Volker and Deacon (27) mention the need to decide on an accounting stance—i.e., breadth of the evaluation project. Once decided, normal sampling techniques can be applied. A decision would also need to be made regarding the sampling unit, such as the research project, a published research report, or a significant finding from research, and the unit of analysis, which could be the sampling unit or could be an entire research program summarized on one or more dimensions.

(1) The research project is a convenient unit to study if the purpose of the evaluation is primarily managerial since it enables one to relate cost to research output. A minor disadvantage is that several significant results may come from a single, large project. A more serious objection is the possibility of overlap and duplication (most of it intentional) among research projects. If a research project yields a previously unobserved finding, other projects often follow to see if the finding is universally true. Replication and comparison of findings are essential parts of the research process. This overlap and duplication, however, complicates the problem of linking impact on consumers to the original research. Another complication in using the research project as the unit of study has to do with when it should be studied and what project artifacts should be observed. Project proposals, although readily available to the program administrator, often bear little resemblance to the actual output of the project. Publications from a project provide much better evidence, but are likely to emerge over a period of several years.

(2) The research report, published articles, papers, monographs, etc. are excellent sources of data on what was actually produced from the research. It can often be linked to a specific project. A difficulty is that researchers often publish results in several publications. A sample of reports, therefore, may contain overlap or duplication of content.

(3) The significant finding is the unit most readily linked to impact since Stage I users transmit or utilize individual findings rather than entire reports or projects. A difficulty is that the limits defining an individual finding are generally fuzzy and a matter of judgment—one person might encompass several bits of information in a single finding, while another might call them separate findings. There is also judgment required in deciding what should be regarded as a significant finding out of the large volume of information covered in the typical research report. Inventories of significant findings can be found in review articles and might be the basis for an evaluation study.

f. Which population of users should be studied?

Exhibit I shows each Stage I institution channeling its output to a particular clientele. For this reason, both stages are relevant to sampling decisions even if the evaluation focuses on one stage (i.e., a disseminator or consumer survey). If a disseminator survey is conducted, those Stage I institutions should be surveyed that have in their clientele a substantial number of consumers from

the population of interest. If a consumer survey is conducted, the channel by which research results reached consumers needs to be identified. If evaluators are under some compulsion with respect to which consumer population is of interest, they will need to have advance data about the nature of various Stage I programs and characteristics of their respective clientele.

g. What kind of evidence is acceptable?

This question covers many questions. Two are considered here: (1) What is acceptable by way of assumptions and reliance on secondary data? and (2) What degree of objectivity is desired?

(1) Reliance on assumptions and secondary data in relation to quality and breadth of project. Three of the six evaluation designs described in Exhibit 3 depend on assumptions. The exceptions are R & D studies and experiments in which the early steps in the dissemination-utilization process are controlled, and the longitudinal study which is a composite of several other types. For the three that rely on assumptions, secondary data (data collected and summarized for a different purpose) could be used to support the assumptions and strengthen the credibility of the results. There is often a trade-off between reliance on assumptions and breadth of study, quality of evidence, or both. By making assumptions about steps in the dissemination-utilization process, the evaluator can focus resources on impact evaluation. When this trade-off is considered, reliance on assumptions and secondary data seem more attractive than if one compares them only with the ideal.

In most studies, it will probably be necessary to utilize assumptions. The choice of which phase of the process is assumed might depend on availability of secondary data to support assumptions and the preferences of the intended audience for the evaluation results.

(2) Objectivity. Two dimensions of this aspect might be considered—whether the variables should be based on objective vs. subjective measures, and whether self-reports are to be accepted. These questions along with recommended procedures are discussed in the evaluation literature (e.g., 20, pp. 157-204; 19; 8). While objective measures are preferred on the grounds of greater reliability, they often provide only indirect evidence of the phenomenon to be measured. Subjective measures can be more direct, but reliable subjective measures are often difficult to construct. The use of self-reports presents a similar dilemma. Self-reports may be biased, perhaps unconsciously, but they have the advantage of being provided by the person who is usually best informed. Sometimes self-reports provide the only available source of information. Independent observations are usually preferred if available and if the observer is sufficiently well informed—conditions often not met. Some techniques for reducing the bias found in self-reports are described in Weiss (28).

h. What forms of analysis should be used?

Several authors (8,20) have stressed the desirability of designing evaluation studies in ways to be useful for decision making. This means that prior to designing the study, the decision makers, their decision making needs,

and their values must be identified. Often decision makers need to relate program output (impact) with costs. Volker and Deacon (27) summarize methods for analyzing this relationship. Pitz and McKillip (20) describe methods of quantifying the value of output (impacts) in situations where the output has multiple attributes and the probability of any given outcome is less than one.

SUGGESTED INDICATORS*

A. APPROACH

Development of indicators involves several decisions: what shall be the content of the indicator; how shall information required by the indicator be obtained; what measurement scale shall be used; and how shall validity and reliability be determined. In this monograph the first decision is addressed—choice of content. A number of published works on methodology provide guidance for the remaining decisions (e.g., 19).

Indicators for a given impact (e.g., level of resources) would vary with the content of the research. The content of research in home economics is extremely varied. The 1970 study by Schlater classified home economics research under five goals and 36 subgoals, and listed more than 400 separate research problems (23). More recently an effort to establish new initiatives in home economics (25) was undertaken to identify a small number of thrusts and problem areas in which expanded effort was needed. Since the principal purpose of evaluation is to aid decision-making, it is reasonable to focus evaluation, not on the entire program, but on those portions of the program that are of particular concern.

In the next section, indicators are suggested that might be used to assess Stage I utilization (see Exhibit 1). These Stage I indicators are not specific to any research content. Examples of indicators for specific research content, which might be used to assess utilization in Stage II, are presented in Section C.

B. INDICATORS OF UTILIZATION BY ORGANIZATIONS AND INSTITUTIONS

Regardless of the content of the research and the nature of the impact sought, the types of information available from Stage I institutions are likely to be about the same. Exhibit 7 lists the principal types of indicators which might be measured from information from these institutions. These indicators might show utilization by the institution, dissemination to clients, and/or impact on clients. Of course, such information might or might not be available from a given institution.

*Several authors contributed to this section. Frances M. Magrabi was the author of parts A, B, and C, Thrust 1. E. Raedene Combs, Marjorie J. T. Norton, Gwendolyn Newkirk and Gail DeWeese wrote part C, Thrust 2. Norton and DeWeese were responsible for the material related to textiles and clothing. Helen L. Anderson was the author of part C, Thrust 3. M. Janice Hogan and Yoav Lavee wrote part C, Thrust 4.

Exhibit 7. Types of Indicators That Might Be Obtained from Stage I Institutions to Study Utilization and Dissemination of Research Information to Households and Impact on Household Behavior and Well-Being

Process Phase	Indicator	Examples of Indicators	
A. Utilization of research information by institution	1. Awareness of research information	• Research report has been distributed to institutions.	
		• Research report has been requested by a staff member.	
	2. Use of research information in program planning	• Staff member indicates familiarity with research report.	
		• Research report is cited in a planning document.	
		• One or more significant findings from research are mentioned in a planning document.	
	3. Inclusion of research information in output distributed to clients	• Staff member indicates that staff considered results reported in research report while planning program.	
		(a) Research results were disseminated without interpretation	• Institution publication cites research report.
		(b) Research results were used in designing output	• Research finding appears in institution publication without attribution.
			• Institution distributed guidelines for clients based in whole, or in part, on research information. (i) source acknowledged by institution staff (ii) source identifiable from internal evidence
	B. Dissemination of output utilizing research information ^a	1. Type and amount of output	• Institution distributed a product (e.g., a processed food) which was developed with use of research information from home economics source. (i) source acknowledged by institution staff (ii) source identifiable from internal information
2. Characteristics of institution clientele		• Number of pieces distributed each year of each type of output (e.g., guidelines).	
3. Characteristics of clients who receive output		• Percent who have a given characteristic (e.g., are black, below the poverty threshold, head female-headed households, etc.)	
4. Coverage of clientele		• Percent who have a given characteristic (e.g., are black, below the poverty threshold, head female-headed households, etc.)	
5. Continuity, frequency or intensity of clientele involvement with output		• Percent of clientele who received a given type of output. • Percent who regularly attend meetings or otherwise receive communications in which output is used. • Percent who regularly acquire a product produced by institution.	

(Continued)

Exhibit 7. (Continued)

C. Accomplishment of institution's objectives ^a	<ol style="list-style-type: none">1. Client reactions to research-based output2. Changes in client knowledge, attitudes, skills, and aspirations (KASA) after exposure to research-based output3. Changes in client practice after exposure to research-based output4. Changes in client well-being, in categories identical or associated with desired impacts of the research input	<ul style="list-style-type: none">• Percent of recipients who expressed positive reactions on post-exposure evaluation form.• Percent of recipients who indicated on the post-exposure evaluation form a given type of KASA change.• Percent of recipients who evidenced KASA change after a time lapse.• Degree of KASA change experienced per recipient.• Percent who adopted a new product or recommended practice identified with research-based output.• Percent who extended the wear-life of an owned durable (resource conservation)• Percent who reported an improvement in satisfaction with child-parent interaction (well-being change).• Percent who reported a higher level of consumption (quantity or quality) in a given area (level of living change).• Percent who reported effective use of a newly acquired skill (resource change).
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^aBased on Bennett (3).

C. INDICATORS OF UTILIZATION OF FAMILIES AND INDIVIDUALS

As a basis for identifying and grouping specific impacts on the ultimate clientele—families and individuals—the four thrusts identified in *A Comprehensive Plan for New Initiatives in Home Economics Research, Extension, and Higher Education* were chosen (25) (see Appendix B for background information). Under each thrust, several specific initiatives (problems needing research and/or other intervention) have been identified. Because of the nature of home economics, the impact of the field is most appropriately measured in terms of impact on problems rather than in discipline-oriented measures. These thrusts encompass and integrate subject areas and major themes in home economics in a problem-oriented mode and are, therefore, well suited to the present purpose. However, the usefulness of this monograph is not limited to users of the new initiatives' thrusts. The approach and many of the proposed impacts have a more general applicability. The program initiatives in the sections that follow illustrate the approach and offer a convenient base on which to build.

The four thrusts are: family economic stability and security; energy and environment; food, nutrition, and health; and family strengths and social environment. In the following sections specific impacts and examples of indicators are proposed for the specific program initiatives. Two initiatives have been added to provide more balanced coverage. One in Thrust II pertains to textiles and clothing; the other in Thrust III illustrates

knowledge-building of professionals. Because the content of the initiatives varies, and because the proposals are exploratory and experimental, no attempt has been made to treat each thrust uniformly. Also, it should be noted that any given research project might have several impacts. The treatment of impacts and indicators is intended to be illustrative rather than definitive and comprehensive.

There is no intent to indicate that these are the only problems on which home economics research is needed. On the contrary, other specific problems that should have national priority should be identified and added to this taxonomy with corresponding impacts and measures. A more complete list of problems needing research is found in the 1978 report on *Home Economics Research Assessment Planning Projections*. (21).

1. Thrust I: Economic Stability and Security

Family economic stability and security refers to the ability of a family to maintain its real income over the family life cycle, in the event of death, divorce, and other forms of family disruption, and under pressure from external hardships such as inflation.

a. What benefits should be considered?

Four specific initiatives for research were identified in *A Comprehensive Plan for New Initiatives in Home Economics Research, Extension, and Higher Education* (25, pp. 5-6). Exhibit 8 suggests appropriate indicators.

**Exhibit 8. Specific Impacts on Family Well-Being That May Result from
Research on Selected Topics in Family Economic Stability and Security**

Program Initiatives

A. Effect that family resource management decisions made early in the family life cycle (savings, credit use, housing, durable goods) have on the family's future economic situation.

Impacts	Examples of Indicators
1. Level of resources	
<ul style="list-style-type: none"> a. Increased knowledge on the part of family managers of market conditions and internal conditions within the family including financial needs over the life cycle and types of savings and investment programs. b. Changes, consistent with the findings from the research, in the following: <ul style="list-style-type: none"> (i) investment in education and/or human development (ii) household savings (iii) ownership of durable goods (iv) housing ownership (v) consumer debt load c. Attainment of income level aspired to for later stages of life cycle. 	<ul style="list-style-type: none"> • Change in scores on questionnaires testing knowledge of investment and financial management over relevant time period. • Change in amount of savings owned by young families over relevant time period. • Money income in later stages of life cycle, expressed as a percent of peak income during life cycle or of income aspired to.
2. Resource use	
<ul style="list-style-type: none"> a. Adoption of practices that reduce waste in the household and extend the wear life of durable goods. b. Establishment of goals for savings and investment by household. c. Implementation of management practices to stabilize and control the family's economic situation including effective information search. d. Development and implementation of a savings and investment program by household. 	<ul style="list-style-type: none"> • Self-report of household members that they are following a recommended practice. • Self-reports of household financial managers regarding savings and investment goals. • Change in number and severity of financial emergencies experienced by household over relevant time period. • Number of households that have opened a savings account or other investment account.
3. Level of living	
<ul style="list-style-type: none"> a. Adoption of a level of consumption in early stages of life cycle that satisfies health and development needs of the family, keeps family solvent, and allows for savings. b. Change in balance of components of level of consumption, especially in early stages of life cycle, to reduce consumption of low-yield (in terms of utility) items and substitute free or low-cost sources of utility for more expensive ones. c. Attainment in later stages of life cycle of level of consumption aspired to earlier. 	<ul style="list-style-type: none"> • Total money value of consumption of young families. • Total annual expenditures of young families. • Change in annual expenditures by category, over relevant time period. • Change in use of free or low-cost services over relevant time period. • Money value of consumption in later stages of life cycle expressed as a percent of highest level attained.
4. Level of well-being	
<ul style="list-style-type: none"> a. Increased satisfaction from a sense of financial security and being in control. b. Increased or continued satisfaction in later stages of life cycle, because of attainment of level of consumption aspired to in earlier stages. 	<ul style="list-style-type: none"> • Change in degree of satisfaction with financial security and management practices reported by households over relevant time period. • Change in degree of satisfaction with over-all level of living or quality of life expressed by households over relevant time period.

(Continued)

Exhibit 8. (Continued)

B. Optimizing the family's real income through home-provided goods and services, home-based enterprises, and paid employment

Impacts	Examples of Indicators
1. Level of resources	
a. Increase in real income of household.	<ul style="list-style-type: none"> • Change in total value of money and non-money income of household over relevant time period.
2. Resource use	
a. Substitution of higher yielding for lower yielding types of home-provided goods and services, home-based enterprises, or paid employment of family members.	<ul style="list-style-type: none"> • Change in amount of home production carried on by households over relevant time period, e.g., home food preparation and preservation, construction or repair of garments and household textile items, family-provided care for members, home maintenance and repair.
3. Level of living	
a. Change in leisure activities.	<ul style="list-style-type: none"> • Change over relevant time period in amount, frequency, or type of leisure-time activities.
b. Change in pattern of consumption to compensate for loss of leisure time.	<ul style="list-style-type: none"> • Change over relevant time period in purchase and use of time-saving goods and services.
c. Increase in over-all level of consumption, reflecting increased real income.	<ul style="list-style-type: none"> • Change in total money value of consumption over relevant time period.
4. Level of well-being	
a. Increased satisfaction due to feeling of using time more productively.	<ul style="list-style-type: none"> • Change over relevant time period in satisfaction with personal productivity.
b. Increase in satisfaction resulting from increased level of consumption.	<ul style="list-style-type: none"> • Change over relevant time period in satisfaction with over-all level of living or quality of life.

C. Assessment of the benefits and costs of regulations, market conditions, and policy actions that directly affect economic choices and well-being of families.

1. Level of resources	
a. Changes in the quality, quantity, safety, or cost of commodities and services available on the market for household purchase.	<ul style="list-style-type: none"> • Reduction in number of unsafe products on the market over relevant time period.
b. Increased availability of products that are well-adapted to consumer needs.	<ul style="list-style-type: none"> • Increase in quality or variety of features in products on the market over relevant time period.
2. Use of resources	
a. Adjustments to reflect changes in nature and availability of commodities and their costs—interest in better quality such as safer products when balanced against the disinclination to pay higher prices may result in a change in demand.	<ul style="list-style-type: none"> • Changes in elasticities and cross-elasticities of demand over a relevant time period. • Changes in purchases of regulated products over relevant time period.
3. Level of living	
a. Change in content of consumption reflecting changes in product prices and demand.	<ul style="list-style-type: none"> • Changes in expenditure patterns over relevant time period.
b. Increase in level of consumption due to availability of better quality and more usable products and services.	<ul style="list-style-type: none"> • Change in frequencies of product-related accidents or illnesses over relevant time period.
4. Level of well-being	
a. Increased satisfaction due to increased level of consumption.	<ul style="list-style-type: none"> • Change over relevant time period in satisfaction with over-all level of living or quality of life.

(Continued)

Exhibit 8. Specific Impacts on Family Well-Being That May Result from
Research on Selected Topics in Family Economic Stability and Security (Continued)

D. Enabling of individuals to handle their economic responsibilities for management of real property especially during periods of family transition.

Impacts	Examples of Indicators
1. Level of resources	
a. Increased knowledge about real property management.	• Change in scores on tests of knowledge about real property management.
b. Increased value of real property owned by household.	• Change over relevant time period in total value of real property owned by households.
c. Increased real income.	• Change in total real income of households over relevant time period.
d. Greater stability in level of real income over the life cycle and through transition periods.	• Percent by which real income changed when compared before and after change in household.
2. Use of resources	
a. Use of recommended practices in management of real property.	• Number of households following recommended practices.
b. Changed pattern of real property ownership reflecting recommended practices.	• Change over relevant time period in incidence of real property ownership.
3. Level of living	
a. Change in level of consumption components reflecting changed pattern of ownership of real property.	• Change over relevant time period in consumption expenditures affected by real property ownership.
b. Increase in level of consumption reflecting increased real income.	• Change over relevant time period in total money value of consumption for household.
c. Greater stability in level of consumption over the life cycle and through periods of transition.	• Total money value of consumption of household after change in household has occurred expressed as a percent of pre-change value.
4. Level of well-being	
a. Increase in satisfaction reflecting increased level of consumption.	• Change over relevant time period in satisfaction with level of living or quality of life.
b. Greater stability in level of satisfaction reflecting greater stability in level of consumption.	• Level of satisfaction with levels of living or quality of life after change in household when compared with level of satisfaction before the change.

The initiatives are:

(1) effects that family resource management decisions made early in the family life cycle have on the family's future economic situation;

(2) optimizing the family's real income through home-provided goods and services, home-based enterprises, and paid employment;

(3) assessment of the benefits and costs of regulations, market conditions, and policy actions that directly affect economic choices and well-being of families; and

(4) enabling of individuals to handle their economic responsibilities for management of real property, especially during periods of family transition.

An example of a desk audit for Thrust 1 is shown in Exhibit 9. In this example, 21 selected research reports that appeared in the *Home Economics Research Journal* over a four-year period have been classified by problem area, decision step in which the results might be usable, and type of impact. In this example the articles have not been evaluated with respect to the value of their contribu-

tion to the decision-making process or likelihood that the potential impact would be realized. Such an evaluation would indicate that several of these studies are either too general to provide substantial help to the decision maker, have failed to include critical variables, or are of limited generalizability because of the sample or some other aspect of methodology. Aside from the question of quality, the sample audit does suggest that home economics research projects in this thrust may too frequently focus only on problem identification and fail to provide aids to problem solving (aids to the identification and evaluation of alternatives).

b. How might research help bring about these benefits?

Research can help to satisfy societal concerns regarding the economic stability and security of families by identifying problems and opportunities for families; unfair, ineffective or inefficient practices; present or potential levels of living that fall below what our society deems allowable; and ways of solving or preventing such problems.

Research on family economic security and stability can help improve relationships between consumers, the eco-

conomic institutions with which they deal, and equalize the relative power between the two. Business and industrial firms and related organizations generally have a mixture of objectives, some which promote and support consumer interests. Business organizations are generally in a better position than consumers to make informed decisions because in performing their functions they acquire information not available to consumers, they have more resources with which to obtain and process information, and the economies of scale pertaining to information acquisition and processing are in their favor. A business firm can use a single information collection and analysis activity to develop policies to apply in thousands of transactions, whereas, the consumer can use a given set of information in a few transactions, out of the thousands in which one must engage. Home economics researchers

can fill a need by seeking out and processing information that is useful to consumers and presenting it to the consumer in a form readily usable in decision making. Consumers and business organizations alike can benefit from enhanced effectiveness of consumers.

Several kinds of information are useful:

(1) Information to alert consumers to problems and opportunities. Research can identify features of instruments for saving and investment or real property management (mortgages, individual retirement accounts, and savings or checking accounts) that can affect the consumer's economic well-being, depending on his or her choice and situation. Information about selling practices, product characteristics, and responsibilities of manufacturers, retailers, and consumers can be interpreted to

Exhibit 9. Classification of Selected Articles by Contribution to Decision Making and Impact on Well-Being: Family Economic Stability and Security^a

Subject and Authors ^b	Decision-Making Step ^c			Impact ^d		
	1	2	3	LC	HR	EC
A. Effects on Future						
Hefferan	X				X	
Marlowe	X				X	
B. Optimizing Real Income						
Bird, Bird & Scruggs		X				X
Mayer	X	X				X
Hafstrom & Schram	X				X	
Stafford	X				X	
Volker, Winter & Beutler		X	X		X	
Sletten & Petrich	X			X		
Walker & Parkhurst	X					X
Brown, Heltsley & Warren	X					X
Foster & Metzen	X				X	
Wheeler & Arvey	X				X	
Helmick & Jurich	X				X	
Steidl			X			X
Ortiz, MacDonald, Ackerman & Goebel			X		X	
Hatch & Lane	X					X
Lovingood & Goss			X			X
Hassoun & Hunt			X			X
C. Benefits & Costs of Regulation						
Kelley, Gray & Blouin			X	X		
D. Real Property Management						
Combs & Madden		X	X			X
White & Barclay	X					X

^aSee Appendix C for references.

^bAll articles are from the *Home Economics Research Journal*, 1980-83.

^c1 = existence of problem

2 = availability of alternatives

3 = evaluation of alternatives

^dLC = impact on level of living

HR = impact on household resources

EC = impact on efficiency or conservation

show their relationship to consumer well-being. Such information can be used by the consumer to alert oneself to instances in which careful decision making is warranted and provide one with needed information about alternatives.

(2) Information about how the policies and practices of institutions affect family economic well-being. Examples are the various ways of calculating interest on revolving charge accounts or savings accounts, and bank practices in handling checks, such as delays in crediting deposits to consumer accounts. The government also affects families through its tax laws and other legislation and regulation. When new tax legislation is considered, the impact on the well-being of families should be taken into account. Research can provide such information.

(3) Standards for minimum and, perhaps, maximum household consumption or resources can be established using research data. An example is standards for minimally adequate housing. Several kinds of information are relevant: the identification of housing features that have a critical relationship to family well-being, the aspects of well-being that are affected by housing, and the relationship between these variables; information on the distribution of the critical variables (e.g., amount of floor space per occupant) in the population and the number and proportion in the population that would fall below any proposed standard; cost of changing all housing into compliance with a proposed standard; and estimated improvement of well-being that would result from implementing a proposed standard.

(4) Measures of the economic well-being of the population or population sub-groups. Such information includes the level and distribution of real income, wealth, and total consumption, indicators of level of living or quality of life, and measures of satisfaction. Such information provides a basis for policy making or program planning by comparing population groups with respect to a standard and providing information on the magnitude of the gap between those groups and the standard. It also provides data to assess the impact of policies and programs by showing how such measures of well-being have changed over time.

c. What use population should be assessed?

The ultimate impact of this thrust is on families and individual consumers. Continuing measures of the behavior of families and individuals and evidence of their well-being is needed.

The impact of research in family economic stability and security occurs in two ways: (1) the decision behavior and practices of families and individuals may change because they become aware of and use information from research, or (2) the policies and practices of other institutions and groups—government, business, industry and financial institutions; service providers; and professional practitioners—may change. To assess the first kind of impact, the knowledge and behavior of consumers and families should be monitored as well as that of information disseminators. The content of what is disseminated should also be monitored. Impact might be seen in the knowledge and attitudes of educators and the content of

textbooks and mass media offerings. To assess the impact on institutions, knowledge and attitudes of professional practitioners and individuals employed by institutions should be assessed periodically, as well as the information that they use in performing their functions and the content of the resulting policies and practices.

2. Thrust II: Energy and Environment

The energy and environment research thrust as it pertains to families is concerned with the elimination of inefficient household practices, variations in resource consumption by family types, implications of resource management policies on the home environment, resource-efficient housing choices, and coping with emergency energy situations. This thrust encompasses the efficient use of renewable and non-renewable resources with particular foci on air quality, water supply, and quality and conservation of fossil fuel supplies.

Considerable research in the area of energy and environment has been and continues to be undertaken. Lack of evaluation of the impact of energy research was a major concern of participants at the International Conference on Families and Energy held at Michigan State University in October 1983.

Policy-makers and planners need research-based information to identify and evaluate alternatives and processes intended to result in acceptable and effective ways to conserve energy. Such information is needed so that:

- (1) local, state and national communities can better maintain stable economic and social conditions and perpetuate or improve the standard of living;
- (2) the well-being of present and future generations is considered;
- (3) the potential threats of international conflict are minimized; and
- (4) the “greenhouse effect” created by burning fossil fuels can be controlled.

Professionals need research-based information about alternatives and processes to help families make adjustments and conserve energy, to help policy makers and planners develop programs which are acceptable and beneficial to families, and to help those in the private sector respond to consumer demands with the purpose of maintaining or improving quality of life for present and future generations.

a. What benefits should be considered?

A Comprehensive National Plan for New Initiatives in Home Economics Research, Extension, and Higher Education (25, p. 6) proposes six initiatives for research in energy and environment:

- (1) eliminating household practices that are inefficient and wasteful of resources; and developing, demonstrating, and providing comparative data on alternatives that are resource-conserving and their impact on quality of life;

- (2) resource consumption by types of families, e.g., the elderly in their everyday living;
- (3) implications of alternative resource management policies with respect to the home environment, including trade-offs with family nutrition and health, home safety and sanitation, family economic and social well-being, and other aspects of family functioning;
- (4) housing choices (structure and location) that are resource-efficient, yet consider the functioning of the family with respect to employment, to the community, and sources of essential goods and services;
- (5) managing expenses resulting from rising energy prices in a manner that safeguards family nutrition and health, home safety and sanitation, and long-term economic security; and
- (6) coping with energy situations caused by energy or water shortages or other interruptions to supply.

An additional initiative on clothing and textiles is added to ensure inclusion of impacts in that subject area:

- (7) implementing efficient trade-offs in use of fossil fuels and in use and processing of clothing and household textiles in resource management and conservation.

Exhibit 10 presents potential impacts of research on these initiatives and examples of indicators that could be used to measure the impacts.

b. How might research help bring about these benefits?

The combined realization of more efficient resource use in households, and of home environments that provide for the health, safety, comfort, and psychological and social well-being of family members, requires technical information and information on family functioning. Such technical information includes: (1) direct energy use by appliances and other household equipment, e.g., water heaters, furnaces and heat pumps; (2) heat, moisture, and particle transport properties of housing materials and structures and of clothing and household textiles; (3) toxicology; (4) human physiology and nutrition; and (5) complementarity and competition among factors. Information on family functioning deals with the interdependencies between the physical environment and individuals and with interpersonal relationships. Programs which seek to educate the public, to develop household products, or to formulate and implement policies in line with Thrust II rely on this wide-ranging knowledge base generated through research.

Families can utilize research-based knowledge in their selection of products, in household practices, and in their decisions to support or subscribe to public policies. Yet, the mere existence of accurate information does not ensure its incorporation in household managerial processes.

Research can enhance our understanding of communication so that worthwhile knowledge reaches those who can benefit from it. Information must be transmitted in a form which family decision makers will note, comprehend, and be able to apply. Research can yield insights on the efficacy of dissemination systems and techniques for certain target populations and on how consumers in those populations process information. In addition, research can identify distinct communication procedures suited to different levels of generality and to different purposes (e.g., broad treatment of efficiency and environmental issues intended to change attitudes vs. specific content in product labels and manuals intended to affect purchase choices and to foster efficient usage).

Thrust II implies several goals that may compete with each other in allocational decisions in households and other sectors of society. If certain impacts in Thrust II are to be obtained, it is necessary to acquire an understanding of possible trade-offs on technical, preferential, and economic grounds and to discern the incentives that motivate behavior. Moreover, possible trade-offs and incentives differ among groups in the population. For example, in the case of households, differences exist between those who have an adequate resource base at their disposal and those who do not, thereby having limited choices in resource use. Research can offer information such as: (1) monetary and non-monetary costs; (2) families' attitudes and values with respect to efficiency, conservation, physical comfort, and other wants and needs; (3) how families perceive the effects of their actions (e.g., their ability to exercise control within their own homes, their influence on their communities and the larger society); and (4) where decision-making power rests in households. This knowledge can be applied to education and information systems to direct programming efforts designed to help families. The information can be similarly applied in business and industry in product design and in tailoring products and advertising to certain market segments. In the policy realm, the knowledge can be used to prescribe the types and format of information to be supplied to the public, to regulate product safety, and to devise appropriate means to promote desired outcomes.

c. What population of users should be assessed?

The ultimate aim of research in energy and environment, as described in Thrust II, is to benefit families and the individual consumer. The actual impact may be realized by obtaining measures that provide information which is readily available to help families in making choices about and changes in household practices and appropriate consumption patterns in keeping with level of living and aspired level of well-being.

Secondly, measures can be made of the extent to which there has been an impact on the decisions of policy-making bodies and institutions that contribute to an improved family decision-making environment.

In measuring the first impact, it is important that there is monitoring at the sources of information dissemination on energy and environment issues. The intent would be

Exhibit 10. Specific Impacts on Family Well-Being That May Result from Research on Selected Topics in Energy and Environment

Program Initiatives

A. Eliminating household practices that are inefficient and wasteful of resources and developing, demonstrating, and providing comparative data on alternatives that are resource-conserving and their impact on quality of life.

Impacts	Examples of Indicators
1. Level of resources	
a. Changed attitudes of family members from commitment to less conserving household practices to commitment to more conserving practices.	• Change on scores on questionnaires assessing attitudes toward importance of efficient use of resources.
b. Increased knowledge and skill of family members in identifying household practices which are most energy conserving and yet contribute to quality of life.	• Change in scores on questionnaires testing knowledge of household practices that are energy efficient.
2. Resource use	
a. Adoption by family members of household practices that increase energy efficiency.	• Over a designated time period, change in resource allocation for present use to insure available resources for future.
b. Substitution of low-cost natural resources for high-cost sources.	• Downward trends in the utility costs for households over time resulting from use of low-cost natural resources. • Change in frequency of shortages of resources and extent of pollution over relevant time period.
3. Level of living	
a. Increased level of consumption due to more efficient use of energy resources.	• Increase in total money value of consumption of households with no decrease in the value of energy-related consumption.
4. Level of well-being	
a. Greater satisfaction with behaviors that reduce energy resource waste, air and water pollution, and contribute satisfaction to quality of life.	• Higher correlation between behaviors that reduce waste of renewable and non-renewable resources and that decrease pollution and perceived levels of satisfaction with quality of life.
b. Increased satisfaction resulting from resource use from which future generations can benefit.	• Measures of attitudes and levels of satisfaction with life-style adjustments.

B. Resource consumption by types of families in their everyday life.

1. Level of resources	
a. Increased data/knowledge base relevant to designing policies that respond to the needs of different types of families.	• Improved adequacy of statistical reports on supplies and use of non-renewable resources. • Increased scores about policies affecting consumer behaviors on tests of knowledge.
b. Increased public understanding of ways policy makers seek to enhance resource conservation.	• Increase in articles and reports in communication media on resource conservation policies.
c. Increased skill of family decision makers to seek information about alternative resource management programs and evaluate them according to their needs.	• Change in extent of information sought by family decision makers over relevant time period about alternatives in resource management.
2. Resource use	
a. Fewer individuals or families have less than minimally adequate resources of fuel, water, air, and protection against the elements.	• Surveys of the poor to obtain estimates of numbers with inadequate resources.

(Continued)

Exhibit 10. (Continued)

3. Level of living

- a. Reduction or change in components of consumption that involve use of non-renewable resources.
 - Change in annual energy consumption and total money value of energy consumption by family type over relevant time period.
- b. Improved level of consumption of disadvantaged groups and future generations.
 - A reduced number of consumers with inadequate levels of consumption over a relevant time period.

4. Level of well-being

- a. Increased satisfaction with use of resources among all groups.
 - Change over relevant time period in consumer satisfaction with resource use.

C. Implications of alternative resource management policies with respect to the home environment including trade-offs with family nutrition and health, home safety and sanitation, family economic and social well-being, and other aspects of family functioning.

1. Level of resources

- a. Increased citizen knowledge of the implications of policies on their lives now and in the future.
 - Change in scores on questionnaire testing assessment of impacts of policies relating to resource use and environmental protection.
- b. Increased sensitivity of policy makers to implications of alternative resource management policies on the present and future well-being of households.
 - Change in characteristics of policies as measured by resource use impact criteria.

2. Resource use

- a. Reduced use of non-renewable resources by households.
 - Level of energy use as reported by utility companies.
- b. Improved efficiency in the use of resources by households.
 - Change in amount of fossil fuel and water used in households in relation to benefits as reported by families.
- c. Change in policy content reflecting changes in resource supply and demand.
 - Reduced consumption in total amount of renewable and non-renewable resources.

3. Level of living

- a. Change in consumption patterns toward use of safer, more healthful products.
 - Comparison of consumption patterns, over time, in terms of increased safety, health.
- b. Change in level of living to reflect prudent and efficient resource use both in present and for future generations.
 - Change in consumption patterns for clothing, food, and shelter.
- c. Optimal balance between present and future consumption with respect to levels of comfort, safety, and quality of environment.
 - Measures of comfort levels, water quality, and air quality within homes.

4. Level of well-being

- a. Increased satisfaction resulting from choice of policies that result in increased level of consumption.
 - Change in scores on questionnaire that assesses level in living and life quality.

D. Housing choices (structure and location) that are resource-efficient, yet consider the functioning of the family with respect to employment, the community, and sources of essential goods and services.

Impacts

Examples of Indicators

1. Level of resources

- a. Improved criteria by which local policy makers and citizens assess the impact of regulations on housing intermediaries and consumer choice by incorporating into the criteria effects on resource efficiency and family functioning.
 - Content analysis of public hearings and debates.
 - Change in proportion of energy-efficient dwellings in housing stock.
- b. Increased skill of family decision makers to assess trade-offs between energy-efficient housing and locational factors.
 - Change in scores on questionnaire of decision makers on appropriate methods and criteria for assessing trade-offs.

(Continued)

**Exhibit 10. Specific Impacts on Family Well-Being That May Result
from Research on Selected Topics in Energy and Environment**

(Continued)

- | | |
|---|---|
| <p>2. Resource use</p> <p>a. Less use of non-renewable energy sources.</p> <p>b. More efficient use of resources to provide long-lasting, high quality housing.</p> <p>c. Change in energy consumption through change in physical characteristics of dwellings.</p> | <ul style="list-style-type: none"> • Change in energy use as reported by utility companies, including water. • Change in cost of resources (both direct and indirect) in relation to length of use. • Redesign of housing to minimize natural resources consumption with minimal dollar expenditure. |
| <p>3. Level of living</p> <p>a. Improved adequacy of housing.</p> | <ul style="list-style-type: none"> • Change in energy-related and functional characteristics of the housing stock. |
| <p>4. Level of well-being</p> <p>a. Increased satisfaction with housing environment as a result of choices of housing alternatives that meet criteria of energy and functional efficiency.</p> | <ul style="list-style-type: none"> • Change over relevant time period in satisfaction with housing environment. |
- E. Managing expenses resulting from rising energy prices in a manner that safeguards family nutrition and health, home safety and sanitation, and long-term economic security.**

Impacts	Examples of Indicators
<p>1. Level of resources</p> <p>a. Increase in skill of household manager to incorporate rising energy costs into budget without jeopardizing family health, safety, or security.</p>	<ul style="list-style-type: none"> • Surveys of change in level of skill of household manager to allocate scarcer resources among needs.
<p>2. Resource use</p> <p>a. Improved efficiency and cost-effectiveness in balance among types of resources used (human versus non-human resources).</p> <p>b. Adoption of a level of energy consumption that enables the family to meet other necessary costs of living.</p>	<ul style="list-style-type: none"> • Surveys of amounts of human resources used to meet family needs in relation to non-human resources. • Surveys of consumption level over relevant time period.
<p>3. Level of living</p> <p>a. Increase in qualitative component (community belongingness, esteem, self-actualization) to compensate for decrease in physical component (quantifiable goods).</p> <p>b. Reduction or change in components involving resource use.</p>	<ul style="list-style-type: none"> • Surveys of amount of community involvement and feelings of self-worth over relevant time period. • Levels of annual energy consumption and water consumption.
<p>4. Level of well-being</p> <p>a. Increased satisfaction as a result of change in consumption patterns and maintenance of equipment.</p>	<ul style="list-style-type: none"> • Surveys of change in level of satisfaction over relevant time period.

F. Coping with emergency situations caused by energy or water shortages or other interruptions to supply.

Impacts	Examples of Indicators
<p>1. Level of resources</p> <p>a. Availability of alternative plans to be used during an emergency situation.</p> <p>b. Increase in skills for coping with emergency situations.</p>	<ul style="list-style-type: none"> • Based on identified criteria, change in number and quality of plans for use during an emergency. • Increase in amount of training provided to relevant individuals over a time period.
<p>2. Resource use</p> <p>a. Development of plans for use of resources during a time of change.</p>	<ul style="list-style-type: none"> • Substitution of alternative forms of a given resource (e.g., purchase of bottled water, home-generated electricity).

(Continued)

Exhibit 10. (Continued)

3. Level of living

- a. Stability in level of consumption through periods of transition and crisis.
 - Predicted incidence of diseases and illnesses attributable to unsafe water supply in event of emergencies.
 - Predicted numbers of households with an adequate and safe water supply in event of emergencies.

4. Level of well-being

- a. Minimization of serious long-term harmful effects on well-being that might accompany an emergency situation.
 - Predicted incidence of harmful effects on life quality in the event of an emergency.

G. Implementing efficient trade-offs in use of fossil fuels and in use and processing of household clothing and textiles in resource management and conservation.

Impacts

Examples of Indicators

1. Level of resources

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Increase in household members' awareness of costs and benefits associated with purchase and maintenance of household clothing and textiles, e.g., awareness of cost of replacement vs. cost of repair. b. Increase in household members' awareness of costs and benefits associated with proper installation, maintenance, and use of equipment for processing household clothing and textiles, e.g., awareness of efficient temperatures for operating washers and dryers, associated detergent costs. c. Increased availability of energy-efficient textiles, clothing, and maintenance equipment. | <ul style="list-style-type: none"> • Change in scores on questionnaires measuring awareness of costs and benefits of purchase and maintenance of household clothing and textiles. • Change in scores on questionnaires measuring awareness of costs and benefits of proper installation, maintenance, and use of household equipment and associated products. • Changes in the energy efficiency (measured, for example, by laboratory analysis or by documented conformance with standards) and in the quantity of energy-efficient products offered in the consumer market. |
|---|--|

2. Resource use

- | | |
|--|---|
| <ul style="list-style-type: none"> a. Increase in household members' use of energy-efficient alternative methods of maintaining thermal comfort, e.g., effective use of draperies, carpets, clothing, insulation. b. Increase in household members' use of energy-efficient equipment associated with processing of household clothing and textiles, e.g., employment of energy-efficient washers, dryers, hot water heaters. c. Increase in household members' use of socially acceptable and socially responsible alternatives to fossil fuels. | <ul style="list-style-type: none"> • Self-report of household members on change, over relevant time period, in type of energy sources and conservation methods used. • Change, over relevant time period, in expenditures on energy-efficient household equipment. • Self-report of household members on change, over relevant time period, in the use of socially acceptable and socially responsible alternatives to fossil fuels. |
|--|---|

3. Level of living

- | | |
|---|--|
| <ul style="list-style-type: none"> a. Change in balance of components (real household income increases) due to increase in efficiency of energy use so that resource can be directed toward other areas of household need. | <ul style="list-style-type: none"> • Change in annual expenditures by category over relevant time period. |
|---|--|

(Continued)

Exhibit 10. Specific Impacts on Family Well-Being That May Result from Research on Selected Topics in Energy and Environment (Continued)

4. Level of well-being

- a. Increase in satisfaction as a result of increased efficiency of resource use and maintained or increased physical comfort related to household textiles and clothing.
 - b. Maintenance at previous level of social comfort while incorporating socially acceptable and socially responsible alternatives to fossil fuel usage.
 - c. Increased psychological comfort from the knowledge that resources have been conserved for future generations.
- Change in annual expenditures by category, over relevant time period, in degree of satisfaction with behavior.
 - Self-report of household members on comparative degrees of social comfort before and after incorporating alternatives to fossil fuel usage.
 - Self-report of household members on change, over relevant time period, in degree of psychological comfort as a result of conservation of resources.

to insure accuracy and functional usefulness of information made available to families and the individual consumer. Further, families should provide information about frequently used sources of information, why the source was selected, and how this knowledge base is used to shape household and conservation practices.

Information disseminators—those who produce as well as those who convey—could be evaluated on a regular basis to assess the nature of the knowledge and accuracy of facts of content made available to families and the individual consumer through the variety of communication media. Provision of this information should recognize the special needs of a variety of clients.

3. Thrust III: Food, Nutrition and Health

Nutrition and health are major concerns of individuals and families throughout the world. More and better food and nutrition information is being demanded by consumers, health professionals, educators, legislators, government officials and food producer groups. A multitude of scientific journals present information from the most basic to the most applied on a range of nutrition and health-related concerns. Scientists conducting research concerned with food, nutrition and health come from several disciplines including home economics. Yet, what one should eat to maintain an acceptable standard of health and performance throughout the life cycle remains a question without a clear, definitive answer. Although there exists a considerable body of information about nutrition and maintenance of health, improvement in the nutritional well-being of families and individuals is limited by lack of knowledge in at least three areas: nutrient needs for a lifetime of optimal health and performance, nutritive value (content and availability) of food, and factors affecting food consumption patterns. Priorities and directions for needed research in human nutrition have been suggested by several groups (9), but formalized means of evaluating the benefits of either past or future nutrition research as a whole have not been established. Home economics has the opportunity to contribute to the evaluation of this research.

The report of Volker and Deacon (27) points to the need to develop methodologies for evaluating the benefits of home economics research. Recently, affirmation of the role of home economics in food and agricultural sciences, including human nutrition, and its commitment to serving families and consumers has come through Title XIV of the Food and Agriculture Act of 1977 and amended in 1981 (PL 95-113), and *A Comprehensive National Plan for New Initiatives in Home Economics Research, Extension, and Higher Education* (25). In the latter report, the broad framework to allow for identifying the benefits of home economics research and the likely beneficiaries of this research have been presented.

This is an attempt to develop an evaluation framework for Thrust III on food, nutrition and health. Several questions will be addressed: What benefits to the focus groups should be considered? How might research help bring about these benefits? What population of users should be assessed? What evaluation methodologies would be most appropriate?

a. What benefits to the focus groups should be considered?

Four initiatives in Thrust III (25, pp. 7-8) suggest objectives for research in food, nutrition and health which would:

- (1) facilitate adaptation and use of dietary standards and recommendations to meet needs varying with household practices, resource limitations, and stage in the family life cycle;
- (2) provide information to make informed food choices, to identify the dietary factors related to health risks, and to improve nutritional quality of food;
- (3) suggest home food preparation methods that reflect dietary guidance, conserve nutritional quality, are economical and energy efficient and are acceptable to given groups; and
- (4) develop new knowledge and tested recommendations regarding food safety in the household.

Realization of benefits arising from research and education by focus groups was implied but not delineated in the report. One additional initiative not specifically stated in the report has been added. It is directed specifically to Stage I utilization (Exhibit I) of research on foods and nutrition. It is:

- (5) better knowledge of nutrient requirements, nutri-

ent content and availability from foods, interactions among nutrients and non-nutrients in the diet, and means of determining nutritional status for use by professionals.

Exhibit II presents benefits to be evaluated as being of major concern in human nutrition and foods in relation to health.

Exhibit 11. Specific Impacts on Family Well-Being That May Result from Research on Selected Topics in Food, Nutrition, and Health

Program Initiatives

A. Adaptation of dietary standards and recommendations to family and individual needs and problems, household practices, resources, and stages in family life cycle.

Impacts	Examples of Indicators
1. Level of resources	
<ul style="list-style-type: none"> a. Educational materials are available that tailor dietary standards and recommendations to current needs and problems of families and individuals, current household practices, different stages in the life cycle. b. Educational materials are available to help families and individuals identify food, nutrition and diet information that is reliable and that promote nutritional practices consistent with health maintenance throughout the life cycle. 	<ul style="list-style-type: none"> • Number and quality of educational materials published in each category. • Educational materials published and widely available to the consumer through various media.
2. Use of resources	
<ul style="list-style-type: none"> a. As the situation of households and individuals changes, they adjust their dietary practices in accordance with applicable guidelines. b. Improvement in the relationship between food and nutrition practices and health. c. Reduction in health care costs related to nutritionally-linked chronic conditions and nutritional imbalances in defined population groups. 	<ul style="list-style-type: none"> • Longitudinal data on changes in dietary practices of households and individuals. • Reduction in the incidence of nutrition-linked chronic conditions and nutritional imbalances in defined population groups when compared to previous period. • Change over relevant time period in average cost of health care related to nutritionally-linked conditions.
3. Level of living	
<ul style="list-style-type: none"> a. Improved level of nutrient consumption in relation to dietary standards and recommendations. 	<ul style="list-style-type: none"> • Better nutrient consumption in defined population groups in relation to the RDA, food group guides and/or other guidelines as compared to previous years. • Better nutritional status as indicated by reduced incidence of overt and marginal nutritional imbalances (deficiencies and excesses) and diet-linked chronic conditions for each defined population as compared to the incidence in previous years. • Maintenance or improvement in the correlation between nutrient consumption and nutritional status as the life style, economic circumstances of the household, or stage of life changes as compared to that relationship existing in previous years.

(Continued)

Exhibit 11. Specific Impacts on Family Well-Being That May Result from Research on Selected Topics in Food, Nutrition, and Health (Continued)

4 Level of well-being

- a. Improved well-being related to nutritional practices.

- Improved physical and mental performance is related to improved dietary practices in defined population groups, especially children, adolescents and those of advanced age, as compared to same standard or average level in previous years.
- Increase in life expectancy that is related to improved nutritional practices.

B. Multidisciplinary nutrition and education programs which emphasize nutrition's role in health promotion, including (1) information to make informed food choices, (2) diet factors related to health risks, and (3) ways to improve nutritional quality of food.

Impacts	Examples of Indicators
1. Level of resources	
<ul style="list-style-type: none"> a. Greater access to multidiscipline-designed nutrition information for decision making, including alternatives available in making food choices, as compared to that in previous years. b. Increased consumer knowledge about nutrition. 	<ul style="list-style-type: none"> • Change in number and quality of published materials. • Greater incorporation of sound nutritional information into public access media as compared to that in previous years. • Greater knowledge for making wiser food choices: in meeting nutrient needs throughout the life cycle; in relation to dietary factors linked to health risks; and in relation to changing life style, economic circumstances, and stage in the life cycle, as compared to same standard or average level in previous years.
2. Use of resources	
<ul style="list-style-type: none"> a. Increased use of information from several disciplines in developing nutrition education b. Increased use by consumers of knowledge about nutrition 	<ul style="list-style-type: none"> • Change in content of published materials to reflect integrated information from several disciplines. • Change in content of nutritional education programs through Cooperative Extension, the public schools, sports and fitness programs, public health, etc., to reflect information from several disciplines. • Change in consumer practices with respect to food choices and nutrient intakes.
3. Level of living	
<ul style="list-style-type: none"> a. Improved level of nutrient consumption. b. Improved level of living due to improved nutritional health. 	<ul style="list-style-type: none"> • Change in nutrient intake over relevant time period in conformance with dietary guidelines. • Decrease over relevant time period in diet-related health problems.
4. Level of well-being	
<ul style="list-style-type: none"> a. Increase in well-being, reflecting improved level of living 	<ul style="list-style-type: none"> • Increase over relevant time period in reported level of satisfaction with life as related to nutritional status

(Continued)

Exhibit 11. (Continued)

C. Home food preparation methods that reflect dietary guidance, conserve nutritional quality, are economical and energy efficient, and are acceptable to given ethnic and cultural groups.

Impacts	Examples of Indicators
1. Level of resources	
a. Increase in supply of nutrients in home-prepared foods.	<ul style="list-style-type: none"> • Change over relevant time period in amount of selected nutrients in home-prepared foods that is related to food preparation methods.
b. Improvement in ability to maximize nutrient consumption per food dollar expended through: <ul style="list-style-type: none"> • acquisition of food supplies to reflect dietary recommendations; • improved nutritional quality of food available in the marketplace; • better food handling/production practices in the household to conserve nutritional value and energy use. 	<ul style="list-style-type: none"> • Change over relevant time period in pattern of food purchases that reflect dietary recommendations. • Change over relevant time period in the nutrient content of representative foods in the marketplace. • Change over relevant time period in the nutrient content of and energy usage in food handling and production.
2. Use of resources	
a. Reduced use of energy in food preparation.	<ul style="list-style-type: none"> • Change over relevant time period in average energy usage for household preparation of food.
b. Reduced food costs due to more economical preparation methods.	<ul style="list-style-type: none"> • Change over relevant time period in percentage of household expenditures for food in conjunction with maintenance or improvement in nutrient consumption of household members.
3. Level of living	
a. Improved level of living because more economical methods release resources for purposes other than food.	<ul style="list-style-type: none"> • Change in expenditure pattern over relevant time period that is related to cost-saving methods of food preparation acceptable to the household.
b. Improved level of nutrient consumption.	<ul style="list-style-type: none"> • Change in nutrient intake over relevant time period that can be related to preservation of nutrient quality of foods served in the home.
4. Level of well-being	
a. Improved sense of well-being reflecting improved ability to conserve both food and economic resources.	<ul style="list-style-type: none"> • Reported greater satisfaction by households with their ability to conserve food nutrients and release resources for other household uses.

D. Develop new knowledge and tested recommendations for food safety in the households.

Impacts	Examples of Indicators
1. Level of resources	
a. Availability of new information and tested recommendations for improved food safety in the home.	<ul style="list-style-type: none"> • Number and quality of educational materials for households.
b. Increased productivity of labor force (including household workers) due to less food-related illness.	<ul style="list-style-type: none"> • Reduced incidence of days lost from work including household survey to obtain days lost by household workers.
c. Reduced food losses from spoilage or contamination due to improper handling.	<ul style="list-style-type: none"> • Average food losses in households based on household survey data.
d. Reduction in medical costs due to food-related illness.	<ul style="list-style-type: none"> • Change over relevant time period in medical expenditures due to food-related illness.
2. Use of resources	
a. Households have acquired and maintain equipment and facilities needed for safety of home food supply.	<ul style="list-style-type: none"> • Data from household survey regarding temperature of refrigerator, practices regarding non-refrigerated food storage and other safety-related factors.

(Continued)

Exhibit 11. (Continued)

3. Level of living

- a. Improved level of living due to release of resources for other purposes.
- b. Improved level of health because of reduction in food-related illness.

- Change over relevant time period in expenditure patterns reflecting shift of expenditures from medical costs due to food-related illness to other kinds of expense.
- Decreased incidence and risk of food-related illnesses and parasitic infestations due to inappropriate food handling in the household (preparation, storage, preservation) as compared to that in previous years.

4. Level of well-being

- a. Increased satisfaction with health status of household.

- Reported greater satisfaction with health status due to reduced risk of food-related illness.

E. Better knowledge of nutrient requirements, nutrient content and availability from foods, interactions among nutrients and non-nutrients in the diet, and means of determining nutritional status for use by professionals.

Impacts

Examples of Indicators

1. Level of resources

- a. Improved materials interpreting research findings for use by professionals working with households and individuals.

- Improved quantity, quality and distribution of interpretations of nutrition and food research findings.

2. Use of resources

- a. Incorporation of new information into educational materials and programs geared at households and individuals.
- b. Improved detection of nutrition-related health problems by professionals.

- Greater incorporation of new and appropriate research findings into educational materials and programs prepared by nutrition professionals (Extension, public education, public health, etc.) working with households and individuals.
- Reported improvement by professionals in their ability to assess nutritional status, nutritional needs and ways of guiding the public in meeting nutritional requirements through the food supply.
- Households and individuals indicate improved satisfaction with type and quality of nutrition information obtained from professionals.

3. Level of living

- a. Improved understanding of relation of nutrition to health.

- Greater identification by households and individuals of improvements in health that are attributed to changes in food and nutrition practices.

4. Level of well-being

- a. Households and individuals indicate improved well-being related to nutrition.

- Reported improved sense of well-being by households and individuals related to their nutritional health.

b. How might the research help bring about these benefits?

Research in human nutrition and food can provide consumers with information for making wiser choices in food consumption for optimal health and performance, and can provide professionals with information for: (1) designing nutrition education and action programs; (2) advising government officials in developing public food policies; and (3) advising food producer groups in their efforts to improve nutritional quality and safety of the food supply. Research might provide information useful in four ways:

- (1) To identify the existence or probable risk of a diet-related health or performance problem that might suggest the need for action.
 - (a) Research might indicate that the risk of developing a health problem or of decreased physical or mental performance related to dietary factors is high. For example, research findings showing that a large proportion of women developing osteoporosis and reduced mobility in later life also consumed calcium and vitamin-poor diets during childhood and adolescence might be used by professionals to

focus nutrition education programs on this problem.

- (b) Research might establish the normal or average for indicators of nutritional status for optimal health and well-being, and thus provide a standard of comparison that could help in deciding when remedial action is needed. For example, research indicating that the normal range for the absorption of some nutrients is lower in the elderly than in the younger adult and that this contributes to marginal deficiencies may be helpful in increasing the intake of these nutrients by the elderly.
 - (c) Research might establish more sensitive means for the early detection of diet-related problems or risks and thus allow for possible actions to head them off. For example, research findings identifying means of identifying and monitoring the specific linkages between dietary components and early signs of atherosclerosis and cardiovascular disease could be used by professionals to (1) inform potentially affected individuals of the risks and of possible dietary or other actions available, and (2) inform food-producing groups.
- (2) To indicate possible solutions to diet-related problems as well as the probability of success of these solutions in reducing or eliminating the problem. Research may uncover more than one means of solving a problem, not all of which may be equally effective or feasible from the consumer's standpoint. Identifying the alternatives available for decision making is a key contribution of the research.
 - (3) To help in evaluating the possible alternative solutions. For example, if a teenage girl ignores her need for calcium by refusing to consume milk products or other calcium-containing foods, the likelihood of developing (or not developing) osteoporosis in the post-menopause years will be higher (or not higher). Knowledge of research findings showing that chances of developing osteoporosis are greater than the average may motivate a teenage girl to make food choices to decrease this risk.
 - (4) To help evaluate the decisions that families and individuals make regarding food, nutrition and health. Research can help determine the factors and their degree of influence affecting actual dietary practices. This knowledge can help educators and professionals develop education programs using more effective approaches to improving nutritional practices for better health and performance.

Publication of research findings in scientific and lay publications is perhaps the most tangible evidence for the

provision of new information potentially useful to professionals and families consumers alike. The incorporation of this information into educational and community action programs that result in measurable gains in health and performance, household resource use, and quality of life are harder to quantify. Citations of the research can indicate some degree of use in education and action programs. However, Volker and Deacon (27) warn of some of the pitfalls in the use of citations. Often many years must pass before measurable gains in health and performance can be observed. Nevertheless, the building into each research project of some means of evaluating the research seems one way to ensure that evidence of benefits will be forthcoming. With time there may develop a branch of nutrition research with the objective of evaluating the benefits of the research as a whole.

c. What population of users should be assessed?

The ultimate aim of research on Thrust III is to benefit families and individuals. The benefits will accrue to them in at least two ways—directly through information provided as an aid in making food choices, most often through interpretation by professionals and educators and indirectly through the establishment of policies and regulations by the public (governmental agencies, legislators) and private (food-producing groups) sectors that affect the economic climate, the available food supply and the quality and safety of food. Professionals and educators are more immediate and more substantial users of food and nutrition research information than are families, and a large proportion of the research information is prepared for direct use by the professional. Professionals and educators serve as intermediaries to disseminate the research to families and to the public and private sectors. Perhaps this is because nutrition research is often specific to a given situation, complex in scientific detail, and somewhat difficult for the layman to apply in a practical setting. Since these professionals and educators may influence the family's use of the research by the way in which it is conveyed, interpreted and valued, the quality of their efforts is important and an area for research in itself.

Although most of the initiatives in Thrust III identify the family and consumer as the focus group, professionals and educators will be the primary users of research from the first two initiatives: facilitating adaptation and use of dietary standards and recommendations to meet needs and problems of families and individuals; and multidisciplinary nutrition and education programs which emphasize nutrition's role in health promotion, including information to make informed food choices, diet factors related to health risks, and ways to improve nutritional quality of food. Families and individuals will be the primary users of research from the third and fourth initiatives: home food preparation methods that reflect dietary guidance, conserve nutritional quality, are economical and energy efficient, and are acceptable; and development of new knowledge and tested recommendations regarding food safety.

4. Thrust IV: Family Strengths and Social Environment

There has been tremendous growth in the quality and quantity of family research in the last two decades. Research has included areas such as gender roles, adolescent childbearing, parent-child relationships, marital quality, family stress and coping, violence in the family, racial and cultural variations among American families, nontraditional family forms, divorce and remarriage, and evaluation research of family education, policy, and therapy. Little has been done, however, to evaluate the direct effectiveness of research in enhancing families' well-being.

a. What benefits should be considered?

Using the evaluation framework developed for this task and the four areas as defined in *A Comprehensive Plan for New Initiatives in Home Economics Research, Extension, and Higher Education* (25, pp. 8-9), impact indicators were identified. The initiative areas are:

- (1) *parenting skills* that promote the optimum development of children;
- (2) how families can *identify and manage stress* associated with changing social and economic conditions, changes in family structure, and other critical life events;
- (3) the nature, extent, and contribution to family well-being of *support systems* that enable families to plan for and adjust to change through the life cycle; and
- (4) the impact of *communities, institutions, and services* on the functioning and well-being of families.

While these four focus-areas do not cover the diversity of research currently done, the criteria for evaluation of research in Exhibit 12 are designed to facilitate evaluation of the benefits from family research.

Exhibit 12. Specific Impacts on Family Well-Being That May Result from Research on Selected Topics in Family Strengths and Social Environment

Program Initiatives

A. Effect of information on "parenting skills" that promote the optimum development of children.

Impacts	Examples of Indicators
1. Level of resources	
a. Increased knowledge of factors that enhance child development (physical, emotional, cognitive social, academic, etc.) in respect to child's developmental stage (infants, preschool, school age, adolescents, etc.).	<ul style="list-style-type: none"> • Change in scores on questionnaires testing knowledge and practices of parenting skills relative to child's age.
b. Increased knowledge of factors that affect parent-child relationships (e.g., communication skills, conflict resolution).	<ul style="list-style-type: none"> • Change in scores from observational measure of parent-child interaction.
c. Increased knowledge of parents' relationship factors that affects the adequacy of a child's development including relationships between divorced parents.	<ul style="list-style-type: none"> • Change in scores on questionnaires testing knowledge of factors affecting parent-child relationships. • Discrepancy of parents in their scores on questionnaire testing attitudes toward childbearing. • Assessment of child's perception of parents' relationship.
d. Increased knowledge of parent-community relations that affect child development (e.g., interaction of parents with other child-care providers).	<ul style="list-style-type: none"> • Reports of parents and child-care providers regarding communication and quality of their contacts.
2. Use of resources	
a. Implementation of parenting skills required for child development (physical, emotional, social, etc.), according to child's developmental stage.	<ul style="list-style-type: none"> • Change in scores from observational measures of parenting behavior. • Change in scores of parents' report of parenting practices.
b. Improved quality of communication between parent(s) and child(ren).	<ul style="list-style-type: none"> • Change in scores of parents' report of communication with child. • Change in scores of adolescents' report of communication with parents.
c. Improved parent's communication, conflict resolution and decision making regarding child's needs, including quality of contacts between divorced parents.	<ul style="list-style-type: none"> • Change in scores of parents' report of communication regarding childbearing needs and practices.

(Continued)

Exhibit 12 (Continued)

- d. Improved quality of interaction of parents with other child-care providers.
- Change in scores of parents' and other child-care providers' reports of communication.
- Change in scores of observation measure of interaction between parent(s) and child-care providers.
- 3. Level of living
 - a. Improved parent-child relationships.
 - Change in parents' and adolescents' scores on parent-child relationship measures.
 - b. Adequate child development (physical, emotional, etc.).
 - Measures of child functioning relative to age norms.
 - c. Decreased concerns and problems related to child behavior and development.
 - Change in scores of parents' reported concerns/problems with child.
 - d. Better clarity of parental roles.
 - Changes in scores of parents' reports on ambiguity and role strain.
 - e. Decreased incidents of child abuse.
 - Changes in reported child abuse.
- 4. Level of well-being
 - a. Increased level of satisfaction due to child's development/behavior.
 - Change over relevant period of time in satisfaction with child development and functioning.
 - b. Increased level of satisfaction due to improved parent-child relationship.
 - Change over relevant period of time in satisfaction with interaction with child.
 - c. Increased level of satisfaction due to parents' shared perceptions of child's needs.
 - Change over relevant period of time in marital-parental relationship.

B. Identification and management of stress associated with changing social and economic conditions, changes in family structure, and other critical life events.

Impacts	Examples of Indicators
1. Level of resources	
<ul style="list-style-type: none"> a. Increased knowledge of normative stressors due to developmental and structural changes (transition to parenthood, launching young adult, etc.). • Change in scores on a questionnaire testing knowledge and understanding of normative changes. b. Increased knowledge and ability to identify factors affecting response to stress: <ul style="list-style-type: none"> • additional sources of demand • internal capabilities • external capabilities • attitudes and perception • coping patterns • Change in scores on a questionnaire testing knowledge of key factors affecting coping. • Change in scores of observational measures of internal and external resource use, attitudes and coping practices. 	
2. Use of resources	
<ul style="list-style-type: none"> a. Increased reliance on internal capabilities. • Change in scores on measures of members' and family system's use of capabilities to meet demands. b. Increased seeking of external resources • Change in scores on measures of family's seeking support from formal and informal networks. c. Ability to modify roles to meet demands. • Change in scores of family's role flexibility. d. Improved decision making. • Change in scores of decision-making process. 	
3. Level of living	
<ul style="list-style-type: none"> a. Adjustment to normative stressors and changes. • Indicators showing that the family returns to normal functioning following life transition. b. Adaptation to changed conditions due to non-normative events. • Measures of family functioning following changes. c. Decreased evidence of violence in families. • Overall decrease, over time, in incidence of family violence. 	

(Continued)

Exhibit 12. Specific Impacts on Family Well-Being That May Result from Research on Selected Topics in Family Strengths and Social Environment (Continued)

4 Level of well-being

- | | |
|---|---|
| a. Maintained post-crisis family functioning | • Measures of long-term satisfaction and perceived well-being of affected families. |
| b. Satisfaction with personal and family life despite changes and stressors | • Measures of long-term perceived quality of life of affected families. |

C. The nature, extent and contribution of support systems (community or multigenerational family) that enables families to plan for and adjust to changes through the life cycle.

Impacts

Examples of Indicators

1 Level of resources

- | | |
|--|--|
| a. Improved knowledge of support systems with respect to the type of family (e.g., intact, step, divorced, adoptive) and/or the family's specific needs. | • Change in scores on questionnaires testing knowledge of support networks relevant to the family's type and needs. |
| b. Increased awareness of various support networks available to the family (formal and informal). | • Change in scores on questionnaires testing awareness of support systems (extended family, neighborhood, services, etc.). |
| c. Increased availability and accessibility of support systems (formal and informal) for different types and needs of families. | • Change in quantity or quality of support systems. |

2. Use of resources

- | | |
|---|---|
| a. Increase in support-seeking behavior of families. | • Change in scores on questionnaires testing families' support-seeking as a coping strategy. |
| b. Increased support-giving practices of families. | • Measures of change in helping behavior of families to other family members (extended family). |
| c. Increase in supporting activities of formal and quasi-formal support systems (e.g., church, self-help groups, community programs). | • Measures of change in helping activities of formal and quasi-formal support groups. |

3. Level of living

- | | |
|---|---|
| a. Improved adjustment to stressors and changes. | • Change in scores on measures of adjustment and adaptation to changes. |
| b. Increased sense of being part of and cared for by the community. | • Change in scores on measures of perceived community support. |

4. Level of well-being

- | | |
|--|--|
| a. Greater satisfaction or maintained satisfaction despite life changes. | • Self-report of quality of life and perceived well-being. |
|--|--|

D. The impact of communities, institutions, and services on the functioning and well-being of families.

Impacts

Examples of Indicators

1. Level of resources

- | | |
|---|---|
| a. Improved knowledge of the needs and concerns of families by: <ul style="list-style-type: none"> • family developmental stage • residence (urban, rural, farm families, etc.) • type of family (intact, single, step, adoptive, foster, extended). | • Change, over relevant period of time, in scores on testing knowledge of specific needs of different families (e.g., by developmental stage, residence, type of family structure). |
| b. Improved knowledge of needs and concerns of families with special needs (e.g., handicapped, juvenile, emotionally disturbed member, chronically ill child). | • Change over relevant period of time in scores on questionnaires testing knowledge of needs and concerns of families with special needs. |
| c. Improved knowledge of factors influencing families' use of services. | • Change over period of time in families' scores on questionnaires testing knowledge of factors influencing families' use of community services. |

(Continued)

Exhibit 12 (Continued)

2. Use of resources

- a. Development and implementation of programs (educational, counseling, etc.) that meet different needs.
- b. Development and dissemination of information, referral and resource materials.
- c. Use of community resources (e.g., volunteers)

- Change over period of relevant time in quantity and quality of programs servicing given types of families, families with special needs, etc.
- Change over period of relevant time in quantity and quality of services and resources disseminated
- Change over period of relevant time in measures of integration of community resources in services and programs.

3. Level of living

- a. Increased sense of families that support and help are available.
- b. Increased sense of families that public and private institutions, services, agencies, etc., care for them.

- Changes in scores on questionnaires testing perceived availability and accessibility of community support.
- Changes in scores on questionnaires testing perceived quality of services or satisfaction with community support.

4. Level of well-being

- a. Increased life satisfaction and security due to availability and helpfulness of services.

- Changes in scores on questionnaires testing perceived quality of life of families who use community services.

Exhibit 13 is an example of a desk audit for research on family strengths and social environment. In this example, 26 research reports that appeared in *Family Relations* between January 1983 and January 1986 have been classified by problem area (parenting skills, stress management, support systems, and communities/services), by focus of the research (whether it describes existing situations, problems and/or needs, or whether it focuses on alternatives and programs), and by type of impact (resources, resource use, and level of living). While only one journal was selected for this audit, additional publications would be needed to evaluate the body of relevant research.

Several comments are needed regarding the criteria for evaluation of research on family strengths and social environment (Exhibit 12) and the classification of research by focus and impact (Exhibit 13). First, unlike other thrusts in this report, Thrust IV deals with only *human resources*. The indicator of these resources, as well as of level of living and well-being, are typically measured in family studies by subjective self-reports. Measurement data from observation of behavior, a more expensive procedure, and from experimental design are less frequently used.

Second, unlike other thrusts in this report, there is no clear distinction between level of resources and efficiency of resource use. Impact 1, level of resource, includes measures of knowledge of the factors that affect level of living (e.g., knowledge of parenting skills that contribute to child development, knowledge of factors affecting stress management); whereas Impact 2, resource use, measures change in actual use of these resources (e.g., better communication, more effective coping skills). In

this area of research, however, it is not always meaningful to separate having a resource, such as a specific parenting skill, and its use.

Third, only a limited number of studies on family strengths and social environment have general implications for the well-being of all families. Many studies are conducted on specific types of families with implications for the well-being of those families only (e.g., minority families, adoptive or foster families, families in a certain stage of the family life cycle, single-parent families, step-families). In assessing the potential benefits from research on family strengths and social environment, therefore, one has to bear in mind that some studies, while limited in their generalizability, yield essential information for improving the well-being of specific types of families. On the other hand, studies that are relevant to the general population may be irrelevant to specific groups.

Fourth, in classifying specific research studies (Exhibit 13), it becomes clear that most studies have multiple impacts. In particular, the two areas of parenting skills and impact of services are closely related since research studies on parenting were found to have impact both on resources of parents and on parenting programs offered by community services. Similarly, the areas of stress management and support systems are closely related since social support is one of the critical factors of stress management. Additionally, some areas of study, such as the transition to parenthood, may have implications to all four focus-areas of Thrust IV.

b. How might research help bring about these benefits?

Research in family strengths and social environment can help to identify the knowledge, skills, and values as well as the problems, stressors, and barriers in families. The identity of these factors which affect quality of life in families of varying composition, stage of life cycle, and cultural, social, and economic status can enlighten family members, service providers, employees, and policy makers to the possibilities and probabilities of meaningful change. Increased human resources and a better social environment have the potential to empower families to better determine their well-being, and can create

social trends of increased family stability and more healthy functioning for individual family members. Research can provide useful information in a form appropriate for children and adults, for policy-makers and policy-takers in the government and business sectors, and for family professionals and related service providers. Findings suggesting the need to inform family members of norms, problems, and opportunities for improvement of family functioning are a major purpose for this research. In addition, the research provides findings to inform employees, findings to inform public policy makers, and findings to inform family service providers.

Exhibit 13. Classification of Selected Articles Published in *Family Relations*, 1983-1986, by Contribution to Family Strengths and Social Environment^a

Subject and Authors	Research Focus		Impacts and Implications		
	Needs, Problems	Alternatives, Programs	Resource Resource	Resource Use	Level of Living
A. Parenting Skills					
Levant & Doyle		X		X	X
Haffey & Levant		X	X	X	
Stevens	X		X	X	
Roosa & Vaughan	X		X		
Strom	X		X		
Grady et al.		X		X	
B. Stress Management					
Glass	X		X	X	
Harriman	X		X		
Rosenblatt & Keller	X			X	X
Kazak & Marvin	X		X	X	
Myers-Walls	X	X		X	X
Elman & Gilbert					
Thomas et al.	X			X	X
C. Support Systems					
Cook & Weigel	X	X	X	X	
Gladow & Ray	X	X		X	
Cicirelli	X		X	X	X
Saulnier & Rowland	X	X		X	
D. Communities, Institutions, Services					
Nelson		X		X	X
Cudaback et al.		X		X	X
Rowland & Smith	X		X		
Ganong & Coleman		X		X	X
Hampson et al.		X	X	X	X
Hughes & Durio	X		X		
Turner & Smith	X	X	X	X	
Zimmerman	X	X	X	X	X
Fezell et al.	X	X	X	X	

^aSee Appendix D for references

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Appendix A

Outline for Assessing Research

Prepared by the North Central Research Committee
on Clothing Consumption and Distribution (NCR-65), October, 1984

- I. Why assess the benefits of our research?
 - A. We cannot do research any longer for the sake of doing it. The contribution of the research to the field of study must be considered.
 - B. Need to combine applied and theoretical research to contribute to the body of knowledge.
 - Must know theory well enough to articulate it.
 - Need practical application to see when theory needs to be readjusted.
 - C. Ability to generate funds is important. One yardstick for measurement of departments, and also for promotion/tenure, is the amount of funds generated.
 - D. Research is used to justify existence of the unit in the university and where the unit is "placed" in the overall university structure.
 - E. Usefulness of the information in our field to those outside the field, as well as to "ourselves" is important.
 - F. It contributes to attracting graduate students and to recognition of our contribution to the academic community.
 - G. Assessing the benefits of research can be a "teaching tool"—for both research methods and for working with students developing proposals.
 - H. Emphasis has been on the micro- rather than the macro-level; there is the need to include a macro perspective.
- II. Guidelines for assessing research¹
 - A. Significance of problem.
 1. Breadth—How many people/families/units are affected by the problem? If applicable, how much money is involved?
 2. Depth—How great is the impact on these people/families/units?
 3. Urgency—Is this research designed to solve an immediate need? Or, does this research address a future need?
 4. Is the contribution to the knowledge base primarily theoretical, practical, or methodological?

¹This is not a substitute for a justification of the research bases on a thorough review of the literature.

- B. The knowledge base gained from this research is expected to benefit.
 - 1. the business and economic sector?
 - 2. the consumer sector for improvement of quality of life, etc?
 - 3. policy makers for decision making?
 - 4. other researchers who will continue work on this research?
 - C. How information will reach intended audiences.
 - 1. Lay readers, students, extension service, news releases, educational materials?
 - 2. How much will this be cited by other authors?
 - 3. Will instruments be used subsequently?
 - 4. How many reprints will be requested?
 - 5. What outside groups or sectors might be interested in funding, continuation of this research?
 - 6. What papers will be presented and reviewed; in what outlets?
 - 7. Will this research elicit invitations to present papers?
 - 8. What potential does research have to be included in compilations or by authors of books?
 - 9. Is this research interdisciplinary? What other groups might be interested in cooperative research on this topic?
 - D. Impact on problem.
 - 1. What specific units is this specific research designed to affect (relative to II A1)?
 - 2. What is the expected degree of impact of this specific research (relative to II A2)?
 - 3. How and to what extent does this specific research solve the immediate or anticipated need (relative to II A3)?
 - 4. What are the projected future needs for research on this problem?
 - E. Expected outcome(s).
 - 1. How does this research relate to other efforts to solve this problem?
 - 2. What is original or creative about this research?
 - 3. What special qualifications do these researchers bring to this research?
 - 4. What is the probable degree of success?
-

Appendix B

Background of the New Initiatives Thrusts

The report and recommendations for New Initiatives for Home Economics was founded on language in the National Agricultural Research, Extension, and Teaching Policy Act of 1977, which called for "new federal initiatives to improve and expand research and extension programs in home economics, human nutrition and family living."^a

The New Initiatives report presented four major thrusts on which new and expanded efforts were needed. These were family economic stability and security; energy and environment; food, nutrition and health; and family strengths and social environment. The process by which these thrusts and problem areas were identified is described as follows:

In 1979, acting on advice and discussion from the Experiment Station Committee on Organization and Policy and Extension Committee on Organization and Policy Subcommittees on Home Economics, the Home Economics Commission of the National Association of State Universities and Land-Grant Colleges, the Joint Council on Food and Agricultural Sciences and the National Agricultural Research and Extension Users Advisory Board, USDA's Science and Education Administration (SEA) established a national steering committee, with representatives from the land-grant colleges and universities, other institutions, a professional society, and a user organization. The Steering Committee, after reviewing earlier reports, recommendations, and issues, designed and launched a process for identifying a few high-priority initiatives needing concerted effort in research, extension, and higher education. The Committee sponsored four regional meetings, and obtained assessments, through discussion or by mail, from about 400 users, professional persons, and administrators.^a

^aU.S. Department of Agriculture. *A Comprehensive National Plan for New Initiatives in Home Economics Research, Extension, and Higher Education*. Science and Education Administration, Misc. Pub. No. 1405, 1985, p. 1.

Appendix C

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